

REN

September 1, 2015

RECEIVED

SEP 03 2015

FWQCB
FRESNO, CALIF.

Mr. Ron Holcomb
Central Valley Water Board
1685 E Street,
Fresno, CA 93706

Subject: Fourstar Resources, LLC Order 13267 Technical Report

Mr. Holcomb:

Enclosed is the Fourstar Resources, LLC pond technical report required by CV-RWQCB Order Pursuant to California Water Code Section 13267, dated 10, June 2015.

Sincerely,

M. Jane Ellis McNaboe, PG

cc:

Derek Willshee
1110 Sungro Way
Bakersfield, CA, 93311

EnviroTech
Consultants, Inc.

5400 Rosedale Highway
Bakersfield, CA 93308

SEP 03 2015

RECEIVED
FRESNO, CALIF.

FOURSTAR RESOURCES, LLC
RESPONSE TO RWQCB SECTION 13267 ORDER
POND INFORMATION AND SAMPLING RESULTS

MCDONALD ANTICLINE OIL FIELD

M&B LEASE
SECTION 21, T28S/R20E MDB&M

THETA LEASE
SECTION 20, T28S/R20E MDB&M

Submitted:
August 24, 2015

Addendum:
September 1, 2015

Prepared by:

EnviroTech Consultants, Inc.

L. M. Sawyer, PG #4450

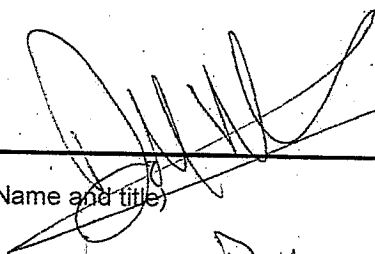
Lorraine M. Sawyer, PG #4450

September 1, 2015

Certification Statement

RWQCB Order 13267, Pond Sampling Technical Report
Fourstar resources, LLC

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


(Name and title)

9/1/15
(Date)

D.M. Willis CEO

Table of Contents

1.0	IDENTIFICATION OF DISCHARGES OF PRODUCED WATER TO LAND	1
2.0	POND SAMPLING	1
3.0	POND SAMPLING ANALYTICAL RESULTS	1
4.0	INFORMATION FOR EACH SURFACE IMPOUNDMENT	8

LIST OF TABLES

Table 3-1: General Chemistry	2
Table 3-2: Anions	3
Table 3-3: Metals	4
Table 3-4: BTEX and TPH	5
Table 3-5: Semi-volatile Organic Compounds	6
Table 3-6: Volatile Organic Compounds	7
Table 4-1: Surface Impoundment Information	9

ATTACHMENTS

ATTACHMENT A	M&B Pond Map
ATTACHMENT B	M&B Pond Site Map
ATTACHMENT C	Theta Pond Map
ATTACHMENT D	Theta Pond Site Map
ATTACHMENT E	Copy of RWQCB Order 13267, 10 June, 2015
ATTACHMENT F	BC - Laboratory Analytical Report

1.0 IDENTIFICATION OF DISCHARGES OF PRODUCED WATER TO LAND

One pond was identified in the 13267 Order sent to Fourstar Resources, LLC by the Regional Water Quality Control Board (RWQCB) containing discharges of produced water on the M&B lease. Two ponds were identified by the RWQCB containing discharges of produced water on the Theta Lease. The 13267 Order, dated June 10, 2015, requested pond sampling for both leases. Maps of the ponds and surrounding leases are included as Attachments A, B, C, and D. There were no other active, inactive or emergency ponds located within the lease boundaries.

2.0 POND SAMPLING

Representative samples of wastewater were collected by EnviroTech Consultants, Inc. (EnviroTech) on August 3, 2015 as required by Order 13267 dated June 10, 2015 (Attachment E).

The samples were collected from a stock tank on the M&B Lease and from a Baker tank on the Theta Lease, both of which led directly to the active ponds on each lease, which contained little to no residual water. The ponds on the Theta Lease are in series, thus only one water sample was needed and collected. The samples were decanted into appropriate sampling containers and cooled with ice for storage and transportation to the laboratory under standard chain of custody procedures.

3.0 POND SAMPLING ANALYTICAL RESULTS

The samples were received by BC Laboratories on August 3, 2015. EnviroTech received the full laboratory analytical report on August 26, 2015. This addendum addresses the complete analytical and all information requested for each pond used by Fourstar Resources, LLC.

The analytical results are summarized in the following tables; complete laboratory reports are included in Attachment F.

Table 3-1: General Chemistry

Sample ID	Date Sampled	Total Dissolved Solids	Calcium	Iron	Magnesium	Manganese	Potassium	Sodium	Strontium	Alkalinity as CaCO3	Bicarbonate ion as HCO3	Carbonate as CO3	Hydroxide as OH
EPA Analytical Method		EPA_160.1	6010B							2320B			
Units		mg/L											
Reporting limit		Reporting limits vary, see full analytical report.											
M&B	8/3/2015	Results											
		19000	83	12	340	0.11	95	7100	20	3000	3000	<8.2	<8.2
Theta	8/3/2015	14000	70	23	47	0.62	36	5800	6.6	1900	1900	<8.2	<8.2

Bold = Analyte detected at or above minimum reporting limit.

Table 3-2: Anions

Sample ID	Date Sampled	Anions, Ion Chromatography			
		Bromide	Chloride	Nitrate as NO3	Sulfate
EPA Analytical Method		300.0			
Units		mg/L			
Reporting Limit		Reporting limit varies, see full analytical report.			
M&B	8/3/2015	91	11000	<22	16
Theta	8/3/2015	46	7200	<22	16

Bold = Analyte detected at or above minimum reporting limit.

Table 3-3: Metals

Sample ID	Date Sampled	Antimony	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Lead
EPA Analytical Method		6010B									
Units		ug/L									
Reporting Limit		Reporting limit varies by sample. See full analytical report.									
M&B	8/3/2015	<2000	<1000	4000	<200	20*	<200	<200	<1000	<200	<1000
Theta	8/3/2015	<2000	<1000	1800	<200	32*	<200	<200	<1000	40	<1000

Sample ID	Date Sampled	Lithium	Molybdenum	Nickel	Selenium	Silver	Strontium	Thallium	Vanadium	Zinc	Mercury
EPA Analytical Method		6010B									
Units		ug/L									
Reporting Limit		Reporting limit varies by sample. See full analytical report.									
M&B	8/3/2015	3.1*	<1000	<200	<2000	<200	20*	<2000	<200	<1000	0.038
Theta	8/3/2015	2.0*	75	<200	<2000	<200	6.6*	<2000	<200	<1000	<0.20

Bold = Analyte detected at or above minimum reporting limit.

*mg/L: Strontium, Lithium, and Boron

Table 3-4: BTEX and TPH

Sample ID		Date Sampled	Benzene	Ethylbenzene	Toluene	O-Xylene	P&M Xylene	Xylenes, Total	TPH as Crude Oil, Gasoline and Diesel Range Organics: (GC)				
									C4-C12	C13-C22	C23-C40	C13-C40	
EPA Analytical Method			8260 B						8015B_GRO	8015B_DRO			
Units			ug/L						ug/L				
Reporting Limit			Varies, see laboratory report										
M&B		8/3/2015	3.8	130	6.5	310	630	930	6600	140000	150000	250000	
Theta		8/3/2015	22	880	28	1200	2900	4100	40000	350000	230000	270000	

Bold = Analyte detected at or above minimum reporting limit.

Table 3-5: Semi-volatile Organic Compounds

Sample ID	Date Sampled	Acenaphthene	Acenaphthylene	Anthracene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Indeno[1,2,3-cd]pyrene	Naphthalene	Phenanthrene	Pyrene	
EPA Analytical Method		8270C_SIM															
Units		ug/L															
M&B	8/3/2015	24	2.6	<5.0	5.3	<5.0	5.2	<5.0	<5.0	7.4	<5.0	4.1	38	<5.0	28	110	9.1
Theta	8/3/2015	120	84	<5.0	14	14	29	5.4	<5.0	52	7.1	5.8	510	<5.0	35	1000	50

Bold = Analyte detected at or above minimum reporting limit.
Reporting limit varies by sample. See full analytic report.

Table 3-6: Volatile Organic Compounds

Sample ID	Date Sampled	8270C_SIM					Units
		n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	n-Butylbenzene	Sec-Butylbenzene	
							ug/L
M&B	8/3/2015	3.5	15	4.0	<12	<12	<12
Theta	8/3/2015	99	19	<12	99	150	320

Bold = Analyte detected at or above minimum reporting limit.

Reporting limit varies by sample. See full analytical report.

*Analytes not detected were excluded in the table and can be found in the full analytical report.

Table 3-7: Radionuclides

Sample ID	Date Sampled	Gross Alpha	Radium-226	Radium-228	Uranium
EPA Analytical Method		EPA 900.0	EPA 903.1	EPA 904.0	EPA 200.8
Units		pCi/L			
Regulatory Threshold*		See analytic report for threshold			
M & B	8/3/2015	1200 ± 0.110	24.5 ± 14.5	8.27 ± 8.21	< 6.7
Theta	8/3/2015	1200 ± 0.191	12.3 ± 9.43	9.04 ± 8.05	< 6.7

Bold = Analyte detected at or above minimum reporting limit.

Reporting limit varies by sample. See full analytic report.

* Title 22, Table 6443. MCL

-- No MCL

4.0 INFORMATION FOR EACH SURFACE IMPOUNDMENT

The following table contains the required information for the Fourstar Resources, LLC active ponds. The ponds will remain active and will used for discharge.

Table 4-1: Surface Impoundment Information

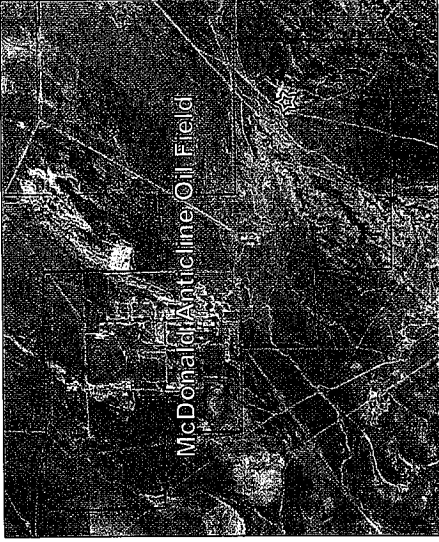
Pond Identification	Surface Impoundment Dimensions (feet)			Location (NAD 83)	Assessor's Parcel Number of the Lease	Duration of discharge (months)	Volume of wastewater discharged per year (bbbls)
	Length	Width	Depth				
M&B	Length	Width	Depth	Latitude: 35.47943°	085-140-36	440	475
	66'	32'	8'	Longitude: -119.83061°			
Theta #1	Length	Width	Depth	Latitude: 35.48149°	085-140-21	440	475
	70'	28'	8'	Longitude: -119.84419°			
Theta #2	Length	Width	Depth	Latitude: 35.48155°	085-140-21	440	475
	70'	40'	8'	Longitude: -119.84419°			

ATTACHMENT A

FOURSTAR RESOURCES, LLC

M&B POND MAP

Fourstar Resources, LLC



Legend



B&M Lease



B&M Lease Pond

Width: 32'
Length: 66'
Depth: 8'

Prepared By:

EnviroTech
Consultants, Inc.

Section/Township/Range

T28S/R20E - Section 21 MDB&M
(SW 1/4 of the NW 1/4 of the section)

TITLE:

B&M Lease Pond

FIELD: McDonald Anticline Oil Field

COUNTY:

Kern

DRN BY:

Kelsey Padilla

DATE:

August 20, 2015

ATTACHMENT B

FOURSTAR RESOURCES, LLC

M&B POND SITE MAP

Fourstar Resources, LLC

M&B Lease Site Map

Sample taken from stock tank



90 ft

Google Earth

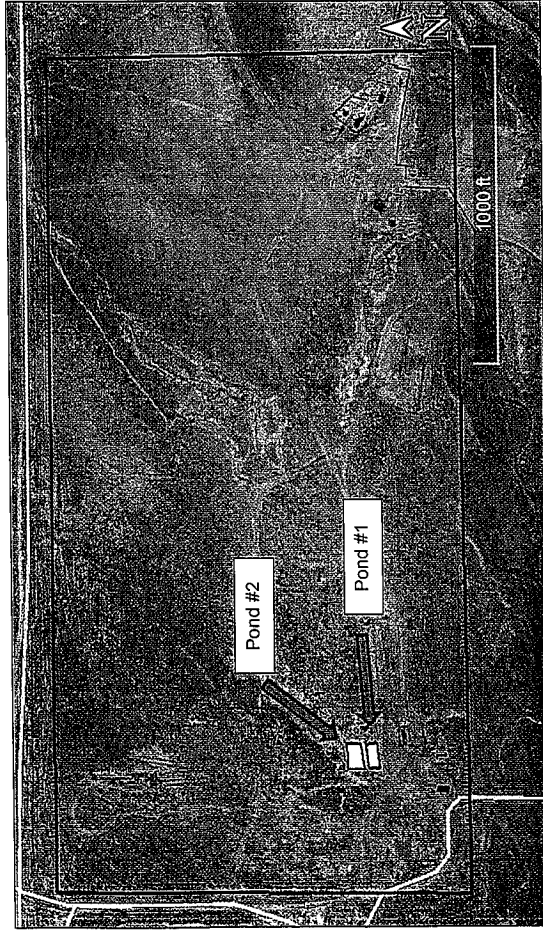
©2015 Google

ATTACHMENT C

FOURSTAR RESOURCES, LLC

THETA POND MAP

Fourstar Resources, LLC



Legend



Theta Lease



Theta Lease Pond

Pond #2:
Width: 40'
Length: 70'
Depth: 8'

Pond #1:
Width: 28'
Length: 70'
Depth: 8'

*Ponds are
in series

Prepared By:

**EnviroTech
Consultants, Inc.**

TITLE:

Theta Lease Pond

FIELD:

McDonald Anticline Oil Field

COUNTY:

Kern

DRN BY:

Kelsey Padilla

DATE:

August 20, 2015.

Section/Township/Range

T28S/R20E - Section 20 MDB&M
(NE 1/4 of the NW 1/4 of the section)

ATTACHMENT D

FOURSTAR RESOURCES, LLC

THETA POND SITE MAP

Fourstar Resources, LLC

Theta Lease Site Map

Samples taken from baker tank



Google Earth

© 2015 Google

ATTACHMENT E

FOURSTAR RESOURCES, LLC

COPY OF RWQCB ORDER 13267, 10 JUNE, 2015



*Envirotech
661-3770073 offer
Scott
661-345-8263 make
Shoo Rosedale Aug.*



EDMUND G. BROWN JR.
GOVERNOR
MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

10 June 2015

Jack Pathirana
Fourstar Resources, LLC
PO Box 91051
City of Industry, CA 91715

CERTIFIED MAIL
7014 3490 0001 7023 3170

CALIFORNIA WATER CODE DIRECTIVE PURSUANT TO SECTION 13267. You are legally obligated to respond to this Order. Please read this Order carefully.

Fourstar Resources, LLC (hereafter Discharger) has been identified as the owner or operator of petroleum production wastewater disposal ponds (ponds). A list of the ponds (and the leases and oil fields where they are located) that the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) identifies as under your control is presented in Attachment A. Ponds for the disposal of wastewater generated during the course of petroleum production have the potential to affect the quality of groundwater (a water of the State). Groundwater underlying the areas where your ponds are located have beneficial uses as identified in the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan).

This order requires the collection and analysis of wastewater samples collected from each of the ponds listed in Attachment A to characterize the discharge. Each sample is to be analyzed for each of the constituents listed in Attachment B. These data are needed to comprehensively characterize wastewater in each pond and provide data needed to evaluate the threat to the quality of waters of the State. If more than one pond is connected in series (i.e., one pond drains directly to the next with no other source of inflow) then only the upstream pond must be sampled. This order is not intended to require the collection of duplicative data. If during the 12 months (one year) prior to the date of this order, samples required by this order have been analyzed from one or more of the ponds for the required constituents, that data can be submitted for the appropriate order requirements.

This order also requires Discharger to identify any discharge(s) of oil field wastewater to land that is not identified in Attachment A. Discharger must also collect and analyze wastewater samples in accordance with Attachment B from any additionally identified discharge to characterize the discharge.

The Central Valley Water Board's authority to require technical reports derives from Section 13267 of the California Water Code, which specifies, in part, that:

(a) A regional Board ... in connection with any action relating to any plan or requirement authorized by this division, may investigate the quality of any waters of the State within its region.

(b)(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefit to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The Central Valley Water Board is concerned about the potential impacts to water quality posed by the discharge of oil field produced waters in surface ponds. The technical information and reports required by this order are necessary to assess the potential threat to water quality. The need to understand the potential impacts to water quality justify the need for the information and reports required by this order. Based on the nature and possible consequences of the discharges of waste, the burden of providing the required information, including the reporting costs, bears a reasonable relationship to the need for the report, and the benefits to be obtained. Discharger is required to submit this information and reports because it is the operator of the ponds listed in Attachment A of this order.

The unauthorized discharge of waste containing oil field waste constituents to land, including unlined ponds, may result in the degradation of water quality and creates or threatens to create, a condition of pollution in groundwater. Significant concentrations of salinity (measured as TDS and EC), significant contributors to salinity such as chloride and sulfate, and boron are present in oil field wastewater. Other potential constituents such as, but not limited to, metals, radionuclides, and organic compounds pose a threat to water quality. The concentrations of these waste constituents in wastewater being discharged needs to be known to evaluate the threat. In addition, all locations where these discharges are occurring needs to be known.

Underlying groundwater can be degraded if mixed with oil field wastewater. Elevated concentrations of oil field waste constituents could impair the groundwater for municipal and domestic supply and agricultural supply uses.

Under the prescribed authority of California Water Code section 13267, the Central Valley Water Board directs Discharger to:

1. By 25 August 2015, submit a technical report containing the following information:

- A. Identification of any discharges of oil field produced waters to land, including but not limited to ponds, since April of 2014 that are not listed in Attachment A;
- B. Collect representative samples of wastewater within each of the ponds. Samples must be analyzed in accordance with the water quality analysis and reporting requirements contained in Attachment B to this Order;¹

If a representative sample cannot feasibly be collected from one or more of the sources discharging to a surface impoundment(s), then a comment will need to be added to the technical report required by this Order demonstrating that collection of a representative sample from a specific source is not feasible within the required timeframe, and propose an alternative sampling procedure and expeditious time schedule for obtaining a representative sample for each source. Alternative sampling procedures and time schedules are subject to approval by the Assistant Executive Officer of the Central Valley Regional Water Quality Control Board.

- C. All available information for each of the surface impoundment(s), including dimensions (i.e., length, width, and depth), latitude and longitude, Assessor's Parcel Numbers of the lease, duration of the discharge (in months), and the volume of wastewater discharged per year.
- D. A location map that includes the following information:
 - i. All surface impoundment(s) at the Facility,
 - ii. Include the boundary lines for all leases at the Facility, and
 - iii. Legend with the name of the surface impoundment(s).

2. By 24 June 2015, Discharger needs to contact Ron Holcomb of this office at (559) 445-6050 if you have received this Order and cannot collect the required samples.

¹ All previously obtained analytical data for oil field produced wastewater samples collected at the Facility, if any, with a description of the source and location for each analysis may be submitted in the alternative for re-running tests if the sample(s) was collected and analyzed within 12 months (one year) of the date of this order.

The technical report required by this Order must be submitted to the attention of:

Ronald Holcomb
Central Valley Water Board
1685 E Street
Fresno, CA 93706

Based on the information submitted in the technical report, additional information or action may be required.

With the report required by this Order, Discharger shall provide under penalty of perjury under the laws of California a "Certification" statement to the Central Valley Water Board. The "Certification" shall include the following signed statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The Central Valley Water Board reserves the right to issue a Notice of Violation or pursue enforcement for Discharger's activities after reviewing the documentation provided in response to this Order.

The technical report is to be signed and stamped by a California Professional Engineer (Registered as a Civil Engineer) or a registered California Professional Geologist. Any laboratory analyses shall be performed by an analytical laboratory certified by the State of California for the analyses performed. Submissions pursuant to this Order shall include a statement by Discharger, or an authorized representative of Discharger, certifying (as described above) that the information submitted is true, complete, and accurate.

The failure to furnish the required report, or the submission of a substantially incomplete report or false information, is a misdemeanor, and may result in additional enforcement actions being taken against Discharger, including issuance of an Administrative Civil Liability Complaint pursuant to California Water Code section 13268. Liability may be imposed pursuant to California Water Code section 13268 in an amount not to exceed one thousand dollars (\$1,000) for each day in which the violation occurs. All discharges to unpermitted ponds should cease pending review and submission of the technical information sought by this order.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with

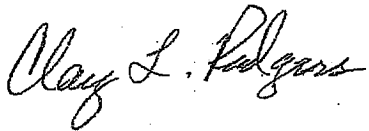
Section 13267 Order
Jack Pathirana
Fourstar Resources, LLC

- 5 -

10 June 2015

California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 days after the date of this directive, except that if the thirtieth day following the date of this directive falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

If you have any questions regarding this matter, please contact Dale Harvey of this office at (559) 445-6190 or at dale.harvey@waterboards.ca.gov.



Clay L. Rodgers
Assistant Executive Officer

cc: Julie Macedo, Office of Enforcement, State Water Resources Control Board, Sacramento
Mike Toland, California Division of Oil, Gas, and Geothermal Resources, Bakersfield

ATTACHMENT A

The following table contains the names of oil fields and lease(s) and the corresponding number of ponds that the Central Valley Water Board has identified as active and under your control:

OPERATOR	OIL FIELD	LEASE	NO. Of Ponds
Fourstar Resources LLC	McDonald Anticline	M & B	1
		Theta	2

ATTACHMENT B

Water Quality Analysis

Wastewater samples collected from the ponds shall be analyzed by a laboratory certified by the Environmental Laboratory Accreditation Program using currently applicable United States Environmental Protection Agency-approved analytical methods for water for the following:

- A. Total dissolved solids;
- B. Metals listed in California Code of Regulations, title 22, section 66261.24, subdivision (a)(2)(A);
- C. Benzene, toluene, ethylbenzene, and xylenes;
- D. Total petroleum hydrocarbons as crude oil;
- E. Polynuclear aromatic hydrocarbons (including acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenzo[a,h]anthracene, fluoranthene, fluorine, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene);
- F. Radionuclides listed under California Code of Regulations, title 22, Table 64442;
- G. Major and minor cations (including sodium, potassium, magnesium, and calcium);
- H. Major and minor anions (including nitrate, chloride, sulfate, carbonate, bicarbonate, and bromide);
- I. Trace elements (including lithium, strontium, boron, iron, and manganese).

Reporting Requirements

Water Quality information shall be submitted in a technical report that includes at a minimum:

- A. Site plan(s) with the location(s) of where the samples were collected;
- B. A description of how the samples, representative of the pond contents, were collected;

Table(s) of analytical results organized by pond number with the data also submitted electronically as an Excel spreadsheet.

ATTACHMENT F

FOURSTAR RESOURCES

BC- LABORATORY ANALYTICAL REPORT



Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Date of Report: 08/26/2015

Kelsey Padilla

Enviro Tech Consultants, Inc.

5400 Rosedale Highway

Bakersfield, CA 93308

Client Project: Fourstar

BCL Project: Produced Water Pond Testing

BCL Work Order: 1518827

Invoice ID: B211811

Enclosed are the results of analyses for samples received by the laboratory on 8/3/2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Kerrie Vaughan
Client Services

Authorized Signature

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Report ID: 1000389266

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Page 1 of 70



Table of Contents

Sample Information

Chain of Custody and Cooler Receipt form.....	3
Laboratory / Client Sample Cross Reference.....	6

Sample Results

1518827-01 - M & B

Volatile Organic Analysis (EPA Method 8260B).....	7
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM).....	10
Purgeable Aromatics and Total Petroleum Hydrocarbons.....	11
Total Petroleum Hydrocarbons.....	12
Water Analysis (General Chemistry).....	13
Metals Analysis.....	14

1518827-02 - Theta

Volatile Organic Analysis (EPA Method 8260B).....	15
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM).....	18
Purgeable Aromatics and Total Petroleum Hydrocarbons.....	19
Total Petroleum Hydrocarbons.....	20
Water Analysis (General Chemistry).....	21
Metals Analysis.....	22

Quality Control Reports

Volatile Organic Analysis (EPA Method 8260B)

Method Blank Analysis.....	23
Laboratory Control Sample.....	27
Precision and Accuracy.....	28

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Method Blank Analysis.....	30
Laboratory Control Sample.....	31
Precision and Accuracy.....	32

Purgeable Aromatics and Total Petroleum Hydrocarbons

Method Blank Analysis.....	34
Laboratory Control Sample.....	35
Precision and Accuracy.....	36

Total Petroleum Hydrocarbons

Method Blank Analysis.....	37
Laboratory Control Sample.....	38
Precision and Accuracy.....	39

Water Analysis (General Chemistry)

Method Blank Analysis.....	40
Laboratory Control Sample.....	41
Precision and Accuracy.....	42

Metals Analysis

Method Blank Analysis.....	43
Laboratory Control Sample.....	44
Precision and Accuracy.....	45

Subcontract Reports

WO_1518827_SUB_BSKSA.pdf.....	48
WO_1518827_SUB_PACEA.pdf.....	57

Notes

Notes and Definitions.....	70
----------------------------	----

BC LABORATORIES

4100 Atlas Court Bakersfield, Ca. 93308
(661) 327-4911 • FAX (661) 327-1918 • www.bclabs.com15-18827
Chain of Custody

* Required Fields

Client/Company Name *		Report Attention *		Phone * /# (661) 703-0065 FAX * /#		E-mail: kpadilla@enviroteam.com	
EnviroTech Consultants		Kelsey Padilla					
Address *		City *		State *		Zip *	
5400 Rosedale Hw		Bakersfield		Ca		93308	
Project Information:		PO #		BCL Quote #			
Fourstar							

How would you like your completed results sent? <input checked="" type="checkbox"/> E-Mail <input type="checkbox"/> Fax <input type="checkbox"/> EDD <input type="checkbox"/> Mail Only		Carbon Copies:	
		CDHS <input type="checkbox"/> Permit Co <input type="checkbox"/> EPA <input type="checkbox"/>	
		Marced Co <input type="checkbox"/> Tulare Co <input type="checkbox"/>	
		Other:	
		Regulatory Compliance Electronic Data Transfer: Y <input type="checkbox"/> N <input type="checkbox"/>	

Sampler Name Printed / Signature		Result Request ** Surcharge	
Kelsey Padilla		<input type="checkbox"/> STD <input type="checkbox"/> Level II <input checked="" type="checkbox"/> STD <input type="checkbox"/> Day** <input type="checkbox"/> Day**	
Matrix Types:		BW = Bottled Water CW = Chlorinated Waste Water DW = Drinking Water SO = Solid	
RSW = Raw Surface Water CFW = Chlorinated Finished Water SW = Storm Water			
RGW = Raw Ground Water FW = Finished Water WW = Waste Water			

Comments / Station Code	
See Attachment for full analysis	
See Attachment for full analysis	

CHK BY		DISTRIBUTION	
JWV		MAR 10 10 10	
		SUB-OUT	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

Sample #		Sample Description / Location		Matrix *	
1		B & M		Water	
2		Ther		Water	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Chain of Custody and Cooler Receipt Form for 1518827 Page 2 of 3

BC LABORATORIES INC.		COOLER RECEIPT FORM		Page <u>1</u> Of <u>2</u>	
Submission #: <u>15-18827</u>					
SHIPPING INFORMATION Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Ontrac <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> BC Lab Field Service <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____			SHIPPING CONTAINER Ice Chest <input checked="" type="checkbox"/> None <input type="checkbox"/> Box <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		FREE LIQUID YES <input type="checkbox"/> NO <input type="checkbox"/>
Refrigerant: Ice <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> None <input type="checkbox"/> Other <input type="checkbox"/> Comments: _____					
Custody Seals Ice Chest <input type="checkbox"/> Containers <input type="checkbox"/> None <input checked="" type="checkbox"/> Comments: _____ Intact: Yes <input type="checkbox"/> No <input type="checkbox"/> Intact: Yes <input type="checkbox"/> No <input type="checkbox"/>					
All samples received? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		All samples containers intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Description(s) match COC? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
COC Received <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Emissivity: <u>0.95</u> Container: <u>Amber</u> Thermometer ID: <u>208</u>		Date/Time: <u>8/31/15</u> <u>1320</u>	
		Temperature: (A) <u>15.5</u> °C (C) <u>15.6</u> °C		Analyst Init: <u>VMB</u>	

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES <u>148</u>	<u>DE</u>									
4oz / 8oz / 16oz PE UNPRES										
2oz Cr ⁶										
QT INORGANIC CHEMICAL METALS <u>MAB</u>	<u>EG</u>									
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz <u>H</u>										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL <u>0910</u>	<u>AHBC</u>									
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER <u>X3Z</u>	<u>IV</u>									
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: They switch to AM and put M4 B on the bottles.
 Sample Numbering Completed By: JDL
 A = Actual C = Corrected

Date/Time: 8/31/15 1340

Rev 20 07/24/2015

(S:\WPDoc\Word\Perfect\LAB_DOCS\FORMS\ISAMRECrev 20)

Chain of Custody and Cooler Receipt Form for 1518827 Page 3 of 3

BC LABORATORIES INC.		COOLER RECEIPT FORM		Page 2 Of 2							
Submission #: 15-18827											
SHIPPING INFORMATION Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Ontrac <input type="checkbox"/> Hand Delivery <input checked="" type="checkbox"/> BC Lab Field Service <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		SHIPPING CONTAINER Ice Chest <input checked="" type="checkbox"/> None <input type="checkbox"/> Box <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		FREE LIQUID YES <input type="checkbox"/> NO <input type="checkbox"/>							
Refrigerant: Ice <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> None <input type="checkbox"/> Other <input type="checkbox"/> Comments: _____											
Custody Seals: Ice Chest <input type="checkbox"/> Containers <input type="checkbox"/> None <input checked="" type="checkbox"/> Comments: _____ Intact? Yes <input type="checkbox"/> No <input type="checkbox"/> Intact? Yes <input type="checkbox"/> No <input type="checkbox"/>											
All samples received? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		All samples containers intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Description(s) match COC? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
COC Received <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Emissivity: 0.95 Container: PE Thermometer ID: 208 Temperature: (A) 11.6 °C / (C) 11.5 °C		Date/Time: 8/3/15 1320 Analyst Init: VMB							
SAMPLE CONTAINERS		SAMPLE NUMBERS									
		1	2	3	4	5	6	7	8	9	10
QT PE UNPRES											
4oz / 8oz / 16oz PE UNPRES											
2oz Cr ⁶⁺											
QT INORGANIC CHEMICAL METALS											
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz											
PT CYANIDE											
PT NITROGEN FORMS											
PT TOTAL SULFIDE											
2oz. NITRATE / NITRITE											
PT TOTAL ORGANIC CARBON											
PT CHEMICAL OXYGEN DEMAND											
PIA PHENOLICS											
40ml VOA VIAL TRAVEL BLANK											
40ml VOA VIAL											
QT EPA 1664											
PT ODOR											
RADIOLOGICAL											
BACTERIOLOGICAL											
40 ml VOA VIAL- 504											
QT EPA 508/608/8080											
QT EPA 515.1/8150											
QT EPA 525											
QT EPA 525 TRAVEL BLANK											
40ml EPA 547											
40ml EPA 531.1											
8oz EPA 548											
QT EPA 549											
QT EPA 8015M											
QT EPA 8270											
8oz / 16oz / 32oz AMBER											
8oz / 16oz / 32oz JAR											
SOIL SLEEVE											
PCB VIAL											
PLASTIC BAG											
TEDLAR BAG											
FERROUS IRON											
ENCORE											
SMART KIT											
SUMMA CANISTER											

Comments:

Sample Numbering Completed By: dm

Date/Time: 8/3/15 1346

Rev 20 07/24/2015

A = Actual / C = Corrected

(S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\ISAMREC rev 20)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



BC Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
1518827-01	COC Number:	---	Receive Date:	08/03/2015 13:20
	Project Number:	---	Sampling Date:	08/03/2015 10:05
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	M & B	Lab Matrix:	Water
	Sampled By:	Kelsey Padilla	Sample Type:	Aqueous
1518827-02	COC Number:	---	Receive Date:	08/03/2015 13:20
	Project Number:	---	Sampling Date:	08/03/2015 10:35
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	Theta	Lab Matrix:	Water
	Sampled By:	Kelsey Padilla	Sample Type:	Aqueous

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Laboratories, Inc.

Environmental Testing Laboratory Since 1949.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1518827-01		Client Sample Name: M & B, 8/3/2015 10:05:00AM, Kelsey Padilla						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	3.8	ug/L	12	2.1	EPA-8260B	ND	J,A01	1
Bromobenzene	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
Bromochloromethane	ND	ug/L	12	6.0	EPA-8260B	ND	A01	1
Bromodichloromethane	ND	ug/L	12	3.5	EPA-8260B	ND	A01	1
Bromoform	ND	ug/L	12	6.8	EPA-8260B	ND	A01	1
Bromomethane	ND	ug/L	25	6.2	EPA-8260B	ND	A01	1
n-Butylbenzene	ND	ug/L	12	2.8	EPA-8260B	ND	A01	1
sec-Butylbenzene	ND	ug/L	12	3.8	EPA-8260B	ND	A01	1
tert-Butylbenzene	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
Carbon tetrachloride	ND	ug/L	12	4.5	EPA-8260B	ND	A01	1
Chlorobenzene	ND	ug/L	12	2.3	EPA-8260B	ND	A01	1
Chloroethane	ND	ug/L	12	3.5	EPA-8260B	ND	A01	1
Chloroform	ND	ug/L	12	3.0	EPA-8260B	ND	A01	1
Chloromethane	ND	ug/L	12	3.5	EPA-8260B	ND	A01	1
2-Chlorotoluene	ND	ug/L	12	5.0	EPA-8260B	ND	A01	1
4-Chlorotoluene	ND	ug/L	12	3.8	EPA-8260B	ND	A01	1
Dibromochloromethane	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
1,2-Dibromo-3-chloropropane	ND	ug/L	25	11	EPA-8260B	ND	A01	1
1,2-Dibromoethane	ND	ug/L	12	4.0	EPA-8260B	ND	A01	1
Dibromomethane	ND	ug/L	12	6.0	EPA-8260B	ND	A01	1
1,2-Dichlorobenzene	ND	ug/L	12	1.8	EPA-8260B	ND	A01	1
1,3-Dichlorobenzene	ND	ug/L	12	3.8	EPA-8260B	ND	A01	1
1,4-Dichlorobenzene	ND	ug/L	12	1.6	EPA-8260B	ND	A01	1
Dichlorodifluoromethane	ND	ug/L	12	2.5	EPA-8260B	ND	A01	1
1,1-Dichloroethane	ND	ug/L	12	2.8	EPA-8260B	ND	A01	1
1,2-Dichloroethane	ND	ug/L	12	4.2	EPA-8260B	ND	A01	1
1,1-Dichloroethene	ND	ug/L	12	4.5	EPA-8260B	ND	A01	1
cis-1,2-Dichloroethene	ND	ug/L	12	2.1	EPA-8260B	ND	A01	1
trans-1,2-Dichloroethene	ND	ug/L	12	3.8	EPA-8260B	ND	A01	1
1,2-Dichloropropane	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
1,3-Dichloropropane	ND	ug/L	12	2.2	EPA-8260B	ND	A01	1
2,2-Dichloropropane	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
1,1-Dichloropropene	ND	ug/L	12	2.1	EPA-8260B	ND	A01	1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1518827-01		Client Sample Name: M & B, 8/3/2015 10:05:00AM, Kelsey Padilla						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	12	3.5	EPA-8260B	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/L	12	2.0	EPA-8260B	ND	A01	1
Ethylbenzene	130	ug/L	12	2.4	EPA-8260B	ND	A01	1
Hexachlorobutadiene	ND	ug/L	12	4.2	EPA-8260B	ND	A01	1
Isopropylbenzene	ND	ug/L	12	3.5	EPA-8260B	ND	A01	1
p-Isopropyltoluene	ND	ug/L	12	3.0	EPA-8260B	ND	A01	1
Methylene chloride	ND	ug/L	25	12	EPA-8260B	ND	A01	1
Methyl t-butyl ether	ND	ug/L	12	2.8	EPA-8260B	ND	A01	1
Naphthalene	ND	ug/L	12	9.0	EPA-8260B	ND	A01	1
n-Propylbenzene	3.5	ug/L	12	2.8	EPA-8260B	ND	J,A01	1
Styrene	ND	ug/L	12	1.7	EPA-8260B	ND	A01	1
1,1,1,2-Tetrachloroethane	ND	ug/L	12	4.5	EPA-8260B	ND	A01	1
1,1,2,2-Tetrachloroethane	ND	ug/L	12	4.2	EPA-8260B	ND	A01	1
Tetrachloroethene	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
Toluene	6.5	ug/L	12	2.3	EPA-8260B	ND	J,A01	1
1,2,3-Trichlorobenzene	ND	ug/L	12	4.0	EPA-8260B	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/L	12	4.8	EPA-8260B	ND	A01	1
1,1,1-Trichloroethane	ND	ug/L	12	2.8	EPA-8260B	ND	A01	1
1,1,2-Trichloroethane	ND	ug/L	12	4.0	EPA-8260B	ND	A01	1
Trichloroethene	ND	ug/L	12	2.1	EPA-8260B	ND	A01	1
Trichlorofluoromethane	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
1,2,3-Trichloropropane	ND	ug/L	25	6.0	EPA-8260B	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	12	3.8	EPA-8260B	ND	A01	1
1,2,4-Trimethylbenzene	15	ug/L	12	3.0	EPA-8260B	ND	A01	1
1,3,5-Trimethylbenzene	4.0	ug/L	12	3.0	EPA-8260B	ND	J,A01	1
Vinyl chloride	ND	ug/L	12	3.0	EPA-8260B	ND	A01	1
Total Xylenes	930	ug/L	25	9.0	EPA-8260B	ND	A01	1
p- & m-Xylenes	630	ug/L	12	7.0	EPA-8260B	ND	A01	1
o-Xylene	310	ug/L	12	2.0	EPA-8260B	ND	A01	1
1,2-Dichloroethane-d4 (Surrogate)	108	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	98.9	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	87.2	%	80 - 120 (LCL - UCL)		EPA-8260B			1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1518827-01		Client Sample Name: M & B, 8/3/2015 10:05:00AM, Kelsey Padilla					
Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	08/10/15	08/11/15 09:40	JPT	MS-V13	25	BYH0763

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Report ID: 1000389266

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Page 9 of 70

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID:	1518827-01	Client Sample Name:	M & B, 8/3/2015 10:05:00AM, Kelsey Padilla					
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	24	ug/L	5.0	2.8	EPA-8270C-SIM	ND	A01	1
Acenaphthylene	2.6	ug/L	5.0	2.4	EPA-8270C-SIM	ND	J,A01	1
Anthracene	ND	ug/L	5.0	0.85	EPA-8270C-SIM	ND	A01	1
Benzo[a]anthracene	5.3	ug/L	5.0	1.3	EPA-8270C-SIM	ND	A01	1
Benzo[b]fluoranthene	5.2	ug/L	5.0	2.0	EPA-8270C-SIM	ND	A01	1
Benzo[k]fluoranthene	ND	ug/L	5.0	2.6	EPA-8270C-SIM	ND	A01	1
Benzo[a]pyrene	ND	ug/L	5.0	1.3	EPA-8270C-SIM	ND	A01	1
Benzo[g,h,i]perylene	ND	ug/L	5.0	2.2	EPA-8270C-SIM	ND	A01	1
Chrysene	7.4	ug/L	5.0	1.1	EPA-8270C-SIM	ND	A01	1
Dibenzo[a,h]anthracene	ND	ug/L	5.0	2.2	EPA-8270C-SIM	ND	A01	1
Fluoranthene	4.1	ug/L	5.0	0.60	EPA-8270C-SIM	ND	J,A01	1
Fluorene	38	ug/L	5.0	1.5	EPA-8270C-SIM	ND	A01	1
Indeno[1,2,3-cd]pyrene	ND	ug/L	5.0	2.2	EPA-8270C-SIM	ND	A01	1
Naphthalene	28	ug/L	5.0	3.8	EPA-8270C-SIM	ND	A01	1
Phenanthrene	110	ug/L	5.0	1.1	EPA-8270C-SIM	ND	A01	1
Pyrene	9.1	ug/L	5.0	1.1	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surrogate)	0	%	40 - 130 (LCL - UCL)		EPA-8270C-SIM		A01,A17	1
2-Fluorobiphenyl (Surrogate)	0	%	50 - 120 (LCL - UCL)		EPA-8270C-SIM		A01,A17	1
p-Terphenyl-d14 (Surrogate)	0	%	40 - 130 (LCL - UCL)		EPA-8270C-SIM		A01,A17	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C-SIM	08/07/15	08/12/15 09:10	MK1	MS-B4	50	BYH1030

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	1518827-01	Client Sample Name:	M & B, 8/3/2015 10:05:00AM, Kelsey Padilla					
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	6600	ug/L	2500	440	EPA-8015B	ND	A01	1
a,a,a-Trifluorotoluene (FID Surrogate)	88.5	%	70 - 130 (LCL - UCL)		EPA-8015B			1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	08/07/15	08/07/15 17:44	AKM	GC-V9	50	BYH0553

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Total Petroleum Hydrocarbons

BCL Sample ID: 1518827-01		Client Sample Name: M & B, 8/3/2015 10:05:00AM, Kelsey Padilla						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline	140000	ug/L	50000	20000	EPA-8015B/FFP	ND	A01	1
TPH - Diesel (FFP)	150000	ug/L	20000	3400	EPA-8015B/FFP	ND	A01	1
TPH - Motor Oil	250000	ug/L	50000	6600	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogate)	0	%	37 - 134 (LCL - UCL)		EPA-8015B/FFP		A01,A17	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B/FFP	08/10/15	08/13/15 11:11	MWB	GC-13	100	BYH0882

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

**BC Laboratories, Inc.**

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla**Water Analysis (General Chemistry)**

BCL Sample ID: 1518827-01		Client Sample Name: M & B, 8/3/2015 10:05:00AM, Kelsey Padilla						
Constituent	Result	Units	PQL	MDL	Method	MCL	Lab Quals	Run #
Total Calcium	83	mg/L	2.0	0.30	EPA-6010B		A07	1
Total Magnesium	340	mg/L	1.0	0.38	EPA-6010B		A07	1
Total Sodium	7100	mg/L	10	1.0	EPA-6010B		A07	1
Total Potassium	95	mg/L	20	2.6	EPA-6010B		A07	1
Bicarbonate Alkalinity as CaCO ₃	3000	mg/L	8.2	8.2	SM-2320B			2
Carbonate Alkalinity as CaCO ₃	ND	mg/L	8.2	8.2	SM-2320B			2
Hydroxide Alkalinity as CaCO ₃	ND	mg/L	8.2	8.2	SM-2320B			2
Total Alkalinity as CaCO ₃	3000	mg/L	8.2	8.2	SM-2320B			2
Bromide	91	mg/L	5.0	1.8	EPA-300.0		A07	3
Chloride	11000	mg/L	50	6.1	EPA-300.0	600	A07	4
Nitrate as NO ₃	ND	mg/L	22	3.9	EPA-300.0	45	A07	3
Sulfate	16	mg/L	50	5.0	EPA-300.0	500	J,A07	3
Total Dissolved Solids @ 180 C	19000	mg/L	1000	1000	EPA-160.1	1500		5

Run #	Method	Prep Date	Run	Analyst	Instrument	Dilution	QC
			Date/Time				Batch ID
1	EPA-6010B	08/06/15	08/07/15 13:17	ARD	PE-OP3	20	BYH0471
2	SM-2320B	08/05/15	08/05/15 20:31	RML	MET-1	2	BYH0297
3	EPA-300.0	08/03/15	08/03/15 20:30	BMW	IC8	50	BYH0169
4	EPA-300.0	08/03/15	08/03/15 23:48	BMW	IC8	100	BYH0169
5	EPA-160.1	08/06/15	08/06/15 09:00	CAD	MANUAL	100	BYH0419

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Metals Analysis

BCL Sample ID: 1518827-01		Client Sample Name: M & B, 8/3/2015 10:05:00AM, Kelsey Padilla						
Constituent	Result	Units	PQL	MDL	Method	MCL	Lab Quals	Run #
Hexavalent Chromium	480	ug/L	20	7.0	EPA-7196		A07,Z1	1
Total Antimony	ND	ug/L	2000	170	EPA-6010B		A07	2
Total Arsenic	ND	ug/L	1000	160	EPA-6010B		A07	2
Total Barium	4000	ug/L	200	70	EPA-6010B		A07	2
Total Beryllium	ND	ug/L	200	10	EPA-6010B		A07	2
Total Boron	20	mg/L	2.0	0.26	EPA-6010B		A07	2
Total Cadmium	ND	ug/L	200	22	EPA-6010B		A07	2
Total Chromium	ND	ug/L	200	22	EPA-6010B		A07	2
Total Cobalt	ND	ug/L	1000	26	EPA-6010B		A07	2
Total Copper	ND	ug/L	200	22	EPA-6010B		A07	2
Total Iron	12	mg/L	1.0	0.60	EPA-6010B		A07	2
Total Lead	ND	ug/L	1000	80	EPA-6010B		A07	2
Total Lithium	3.1	mg/L	0.40	0.12	EPA-6010B		A07	2
Total Manganese	0.11	mg/L	0.20	0.080	EPA-6010B		J,A07	2
Total Mercury	0.038	ug/L	0.20	0.033	EPA-7470A		J	3
Total Molybdenum	ND	ug/L	1000	24	EPA-6010B		A07	2
Total Nickel	ND	ug/L	200	40	EPA-6010B		A07	2
Total Selenium	ND	ug/L	2000	300	EPA-6010B		A07	2
Total Silver	ND	ug/L	200	38	EPA-6010B		A07	2
Total Strontium	20	mg/L	0.20	0.020	EPA-6010B		A07	2
Total Thallium	ND	ug/L	2000	480	EPA-6010B		A07	2
Total Vanadium	ND	ug/L	200	44	EPA-6010B		A07	2
Total Zinc	ND	ug/L	1000	46	EPA-6010B		A07	2
Total Recoverable Uranium	ND	pCi/L	6.7	0.67	EPA-200.8	20	A07	4
Total Recoverable Uranium	ND	ug/L	10	1.0	EPA-200.8	29.850746 2686567	A07	4

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	08/04/15	08/04/15 09:51	TDC	KONE-1	10	BYH0355
2	EPA-6010B	08/06/15	08/07/15 13:17	ARD	PE-OP3	20	BYH0471
3	EPA-7470A	08/07/15	08/10/15 09:52	MEV	CETAC1	1	BYH0541
4	EPA-200.8	08/06/15	08/06/15 17:36	GPD	PE-EL3	10	BYH0461

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

**BC Laboratories, Inc.**

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID:	1518827-02	Client Sample Name:	Theta, 8/3/2015 10:35:00AM, Kelsey Padilla					
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Benzene	22	ug/L	12	2.1	EPA-8260B	ND	A01	1
Bromobenzene	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
Bromochloromethane	ND	ug/L	12	6.0	EPA-8260B	ND	A01	1
Bromodichloromethane	ND	ug/L	12	3.5	EPA-8260B	ND	A01	1
Bromoform	ND	ug/L	12	6.8	EPA-8260B	ND	A01	1
Bromomethane	ND	ug/L	25	6.2	EPA-8260B	ND	A01	1
n-Butylbenzene	99	ug/L	12	2.8	EPA-8260B	ND	A01	1
sec-Butylbenzene	150	ug/L	12	3.8	EPA-8260B	ND	A01	1
tert-Butylbenzene	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
Carbon tetrachloride	ND	ug/L	12	4.5	EPA-8260B	ND	A01	1
Chlorobenzene	ND	ug/L	12	2.3	EPA-8260B	ND	A01	1
Chloroethane	ND	ug/L	12	3.5	EPA-8260B	ND	A01	1
Chloroform	ND	ug/L	12	3.0	EPA-8260B	ND	A01	1
Chloromethane	ND	ug/L	12	3.5	EPA-8260B	ND	A01	1
2-Chlorotoluene	ND	ug/L	12	5.0	EPA-8260B	ND	A01	1
4-Chlorotoluene	ND	ug/L	12	3.8	EPA-8260B	ND	A01	1
Dibromochloromethane	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
1,2-Dibromo-3-chloropropane	ND	ug/L	25	11	EPA-8260B	ND	A01	1
1,2-Dibromoethane	ND	ug/L	12	4.0	EPA-8260B	ND	A01	1
Dibromomethane	ND	ug/L	12	6.0	EPA-8260B	ND	A01	1
1,2-Dichlorobenzene	ND	ug/L	12	1.8	EPA-8260B	ND	A01	1
1,3-Dichlorobenzene	ND	ug/L	12	3.8	EPA-8260B	ND	A01	1
1,4-Dichlorobenzene	ND	ug/L	12	1.6	EPA-8260B	ND	A01	1
Dichlorodifluoromethane	ND	ug/L	12	2.5	EPA-8260B	ND	A01	1
1,1-Dichloroethane	ND	ug/L	12	2.8	EPA-8260B	ND	A01	1
1,2-Dichloroethane	ND	ug/L	12	4.2	EPA-8260B	ND	A01	1
1,1-Dichloroethene	ND	ug/L	12	4.5	EPA-8260B	ND	A01	1
cis-1,2-Dichloroethene	ND	ug/L	12	2.1	EPA-8260B	ND	A01	1
trans-1,2-Dichloroethene	ND	ug/L	12	3.8	EPA-8260B	ND	A01	1
1,2-Dichloropropane	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
1,3-Dichloropropane	ND	ug/L	12	2.2	EPA-8260B	ND	A01	1
2,2-Dichloropropane	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
1,1-Dichloropropene	ND	ug/L	12	2.1	EPA-8260B	ND	A01	1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1518827-02		Client Sample Name: Theta, 8/3/2015 10:35:00AM, Kelsey Padilla						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
cis-1,3-Dichloropropene	ND	ug/L	12	3.5	EPA-8260B	ND	A01	1
trans-1,3-Dichloropropene	ND	ug/L	12	2.0	EPA-8260B	ND	A01	1
Ethylbenzene	880	ug/L	12	2.4	EPA-8260B	ND	A01	1
Hexachlorobutadiene	ND	ug/L	12	4.2	EPA-8260B	ND	A01	1
Isopropylbenzene	150	ug/L	12	3.5	EPA-8260B	ND	A01	1
p-Isopropyltoluene	320	ug/L	12	3.0	EPA-8260B	ND	A01	1
Methylene chloride	ND	ug/L	25	12	EPA-8260B	ND	A01	1
Methyl t-butyl ether	ND	ug/L	12	2.8	EPA-8260B	ND	A01	1
Naphthalene	ND	ug/L	12	9.0	EPA-8260B	ND	A01	1
n-Propylbenzene	99	ug/L	12	2.8	EPA-8260B	ND	A01	1
Styrene	ND	ug/L	12	1.7	EPA-8260B	ND	A01	1
1,1,1,2-Tetrachloroethane	ND	ug/L	12	4.5	EPA-8260B	ND	A01	1
1,1,1,2,2-Tetrachloroethane	ND	ug/L	12	4.2	EPA-8260B	ND	A01	1
Tetrachloroethene	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
Toluene	28	ug/L	12	2.3	EPA-8260B	ND	A01	1
1,2,3-Trichlorobenzene	ND	ug/L	12	4.0	EPA-8260B	ND	A01	1
1,2,4-Trichlorobenzene	ND	ug/L	12	4.8	EPA-8260B	ND	A01	1
1,1,1-Trichloroethane	ND	ug/L	12	2.8	EPA-8260B	ND	A01	1
1,1,2-Trichloroethane	ND	ug/L	12	4.0	EPA-8260B	ND	A01	1
Trichloroethene	ND	ug/L	12	2.1	EPA-8260B	ND	A01	1
Trichlorofluoromethane	ND	ug/L	12	3.2	EPA-8260B	ND	A01	1
1,2,3-Trichloropropane	ND	ug/L	25	6.0	EPA-8260B	ND	A01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ug/L	12	3.8	EPA-8260B	ND	A01	1
1,2,4-Trimethylbenzene	19	ug/L	12	3.0	EPA-8260B	ND	A01	1
1,3,5-Trimethylbenzene	ND	ug/L	12	3.0	EPA-8260B	ND	A01	1
Vinyl chloride	ND	ug/L	12	3.0	EPA-8260B	ND	A01	1
Total Xylenes	4100	ug/L	25	9.0	EPA-8260B	ND	A01	1
p- & m-Xylenes	2900	ug/L	12	7.0	EPA-8260B	ND	A01	1
o-Xylene	1200	ug/L	12	2.0	EPA-8260B	ND	A01	1
1,2-Dichloroethane-d4 (Surrogate)	109	%	75 - 125 (LCL - UCL)		EPA-8260B			1
Toluene-d8 (Surrogate)	103	%	80 - 120 (LCL - UCL)		EPA-8260B			1
4-Bromofluorobenzene (Surrogate)	135	%	80 - 120 (LCL - UCL)		EPA-8260B		A19,S09	1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

**Laboratories, Inc.**

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

BCL Sample ID: 1518827-02		Client Sample Name: Theta, 8/3/2015 10:35:00AM, Kelsey Padilla					
Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8260B	08/10/15	08/11/15 10:04	JPT	MS-V13	25	BYH0764

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

BCL Sample ID: 1518827-02		Client Sample Name: Theta, 8/3/2015 10:35:00AM, Kelsey Padilla						
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Acenaphthene	120	ug/L	25	14	EPA-8270C-SIM	ND	A01	1
Acenaphthylene	84	ug/L	5.0	2.4	EPA-8270C-SIM	ND	A01	2
Anthracene	ND	ug/L	5.0	0.85	EPA-8270C-SIM	ND	A01	2
Benzo[a]anthracene	14	ug/L	5.0	1.3	EPA-8270C-SIM	ND	A01	2
Benzo[b]fluoranthene	29	ug/L	5.0	2.0	EPA-8270C-SIM	ND	A01	2
Benzo[k]fluoranthene	ND	ug/L	5.0	2.6	EPA-8270C-SIM	ND	A01	2
Benzo[a]pyrene	14	ug/L	5.0	1.3	EPA-8270C-SIM	ND	A01	2
Benzo[g,h,i]perylene	5.4	ug/L	5.0	2.2	EPA-8270C-SIM	ND	A01	2
Chrysene	52	ug/L	25	5.5	EPA-8270C-SIM	ND	A01	1
Dibenzo[a,h]anthracene	7.1	ug/L	5.0	2.2	EPA-8270C-SIM	ND	A01	2
Fluoranthene	5.8	ug/L	5.0	0.60	EPA-8270C-SIM	ND	A01	2
Fluorene	510	ug/L	25	7.5	EPA-8270C-SIM	ND	A01	1
Indeno[1,2,3-cd]pyrene	ND	ug/L	5.0	2.2	EPA-8270C-SIM	ND	A01	2
Naphthalene	35	ug/L	25	19	EPA-8270C-SIM	ND	A01	1
Phenanthrene	1000	ug/L	50	11	EPA-8270C-SIM	ND	A01	3
Pyrene	50	ug/L	25	5.5	EPA-8270C-SIM	ND	A01	1
Nitrobenzene-d5 (Surrogate)	0	%	40 - 130 (LCL - UCL)		EPA-8270C-SIM		A01,A17	2
2-Fluorobiphenyl (Surrogate)	0	%	50 - 120 (LCL - UCL)		EPA-8270C-SIM		A01,A17	2
p-Terphenyl-d14 (Surrogate)	0	%	40 - 130 (LCL - UCL)		EPA-8270C-SIM		A01,A17	2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8270C-SIM	08/07/15	08/18/15 01:04	MK1	MS-B4	250	BYH1030
2	EPA-8270C-SIM	08/07/15	08/12/15 09:36	MK1	MS-B4	50	BYH1030
3	EPA-8270C-SIM	08/07/15	08/18/15 01:31	MK1	MS-B4	500	BYH1030

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

**BC Laboratories, Inc.**

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	1518827-02	Client Sample Name:	Theta, 8/3/2015 10:35:00AM, Kelsey Padilla					
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
Gasoline Range Organics (C4 - C12)	40000	ug/L	2500	440	EPA-8015B	ND	A01	1
a,a,a-Trifluorotoluene (FID Surrogate)	89.8	%	70 - 130 (LCL - UCL)		EPA-8015B			1

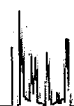
Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B	08/07/15	08/07/15 18:04	AKM	GC-V9	50	BYH0553

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

**BC Laboratories, Inc.**

Environmental Testing Laboratory Since 1949



Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Total Petroleum Hydrocarbons

BCL Sample ID:	1518827-02	Client Sample Name:	Theta, 8/3/2015 10:35:00AM, Kelsey Padilla					
Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
TPH - Gasoline	350000	ug/L	100000	40000	EPA-8015B/FFP	ND	A01	1
TPH - Diesel (FFP)	230000	ug/L	40000	6800	EPA-8015B/FFP	ND	A01	1
TPH - Motor Oil	270000	ug/L	100000	13000	EPA-8015B/FFP	ND	A01	1
Tetracosane (Surrogate)	0	%	37 - 134 (LCL - UCL)		EPA-8015B/FFP		A01,A17	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-8015B/FFP	08/10/15	08/13/15 11:34	MWB	GC-13	200	BYH0882

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

**BC Laboratories, Inc.**

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Water Analysis (General Chemistry)

BCL Sample ID:	1518827-02	Client Sample Name:	Theta, 8/3/2015 10:35:00AM, Kelsey Padilla					
Constituent	Result	Units	PQL	MDL	Method	MCL	Lab Quals	Run #
Total Calcium	70	mg/L	2.0	0.30	EPA-6010B		A07	1
Total Magnesium	47	mg/L	1.0	0.38	EPA-6010B		A07	1
Total Sodium	5800	mg/L	10	1.0	EPA-6010B		A07	1
Total Potassium	36	mg/L	20	2.6	EPA-6010B		A07	1
Bicarbonate Alkalinity as CaCO3	1900	mg/L	8.2	8.2	SM-2320B			2
Carbonate Alkalinity as CaCO3	ND	mg/L	8.2	8.2	SM-2320B			2
Hydroxide Alkalinity as CaCO3	ND	mg/L	8.2	8.2	SM-2320B			2
Total Alkalinity as CaCO3	1900	mg/L	8.2	8.2	SM-2320B			2
Bromide	46	mg/L	5.0	1.8	EPA-300.0		A07	3
Chloride	7200	mg/L	25	3.0	EPA-300.0	600	A07	3
Nitrate as NO3	ND	mg/L	22	3.9	EPA-300.0	45	A07	3
Sulfate	16	mg/L	50	5.0	EPA-300.0	500	J,A07	3
Total Dissolved Solids @ 180 C	14000	mg/L	1000	1000	EPA-160.1	1500		4

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-6010B	08/06/15	08/07/15 13:19	ARD	PE-OP3	20	BYH0471
2	SM-2320B	08/05/15	08/05/15 20:44	RML	MET-1	2	BYH0297
3	EPA-300.0	08/03/15	08/03/15 20:48	BMW	IC8	50	BYH0169
4	EPA-160.1	08/06/15	08/06/15 09:00	CAD	MANUAL	100	BYH0419

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22

Project: Produced Water Pond Testing

Project Number: Fourstar

Project Manager: Kelsey Padilla

Metals Analysis

BCL Sample ID:	1518827-02	Client Sample Name:	Theta, 8/3/2015 10:35:00AM, Kelsey Padilla					
Constituent	Result	Units	PQL	MDL	Method	MCL	Lab Quals	Run #
Hexavalent Chromium	42	ug/L	100	35	EPA-7196		J,A07	1
Total Antimony	ND	ug/L	2000	170	EPA-6010B		A07	2
Total Arsenic	ND	ug/L	1000	160	EPA-6010B		A07	2
Total Barium	1800	ug/L	200	70	EPA-6010B		A07	2
Total Beryllium	ND	ug/L	200	10	EPA-6010B		A07	2
Total Boron	32	mg/L	2.0	0.26	EPA-6010B		A07	2
Total Cadmium	ND	ug/L	200	22	EPA-6010B		A07	2
Total Chromium	ND	ug/L	200	22	EPA-6010B		A07	2
Total Cobalt	ND	ug/L	1000	26	EPA-6010B		A07	2
Total Copper	40	ug/L	200	22	EPA-6010B		J,A07	2
Total Iron	23	mg/L	1.0	0.60	EPA-6010B		A07	2
Total Lead	ND	ug/L	1000	80	EPA-6010B		A07	2
Total Lithium	2.0	mg/L	0.40	0.12	EPA-6010B		A07	2
Total Manganese	0.62	mg/L	0.20	0.080	EPA-6010B		A07	2
Total Mercury	ND	ug/L	0.20	0.033	EPA-7470A			3
Total Molybdenum	75	ug/L	1000	24	EPA-6010B		J,A07	2
Total Nickel	ND	ug/L	200	40	EPA-6010B		A07	2
Total Selenium	ND	ug/L	2000	300	EPA-6010B		A07	2
Total Silver	ND	ug/L	200	38	EPA-6010B		A07	2
Total Strontium	6.6	mg/L	0.20	0.020	EPA-6010B		A07	2
Total Thallium	ND	ug/L	2000	480	EPA-6010B		A07	2
Total Vanadium	ND	ug/L	200	44	EPA-6010B		A07	2
Total Zinc	ND	ug/L	1000	46	EPA-6010B		A07	2
Total Recoverable Uranium	ND	pCi/L	6.7	0.67	EPA-200.8	20	A07	4
Total Recoverable Uranium	ND	ug/L	10	1.0	EPA-200.8	29.850746 2686567	A07	4

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID
1	EPA-7196	08/04/15	08/04/15 10:12	TDC	KONE-1	50	BYH0355
2	EPA-6010B	08/06/15	08/07/15 13:19	ARD	PE-OP3	20	BYH0471
3	EPA-7470A	08/07/15	08/10/15 09:54	MEV	CETAC1	1	BYH0541
4	EPA-200.8	08/06/15	08/06/15 17:39	GPD	PE-EL3	10	BYH0461

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYH0763						
Benzene	BYH0763-BLK1	ND	ug/L	0.50	0.083	
Bromobenzene	BYH0763-BLK1	ND	ug/L	0.50	0.13	
Bromochloromethane	BYH0763-BLK1	ND	ug/L	0.50	0.24	
Bromodichloromethane	BYH0763-BLK1	ND	ug/L	0.50	0.14	
Bromoform	BYH0763-BLK1	ND	ug/L	0.50	0.27	
Bromomethane	BYH0763-BLK1	ND	ug/L	1.0	0.25	
n-Butylbenzene	BYH0763-BLK1	ND	ug/L	0.50	0.11	
sec-Butylbenzene	BYH0763-BLK1	ND	ug/L	0.50	0.15	
tert-Butylbenzene	BYH0763-BLK1	ND	ug/L	0.50	0.13	
Carbon tetrachloride	BYH0763-BLK1	ND	ug/L	0.50	0.18	
Chlorobenzene	BYH0763-BLK1	ND	ug/L	0.50	0.093	
Chloroethane	BYH0763-BLK1	ND	ug/L	0.50	0.14	
Chloroform	BYH0763-BLK1	ND	ug/L	0.50	0.12	
Chloromethane	BYH0763-BLK1	ND	ug/L	0.50	0.14	
2-Chlorotoluene	BYH0763-BLK1	ND	ug/L	0.50	0.20	
4-Chlorotoluene	BYH0763-BLK1	ND	ug/L	0.50	0.15	
Dibromochloromethane	BYH0763-BLK1	ND	ug/L	0.50	0.13	
1,2-Dibromo-3-chloropropane	BYH0763-BLK1	ND	ug/L	1.0	0.44	
1,2-Dibromoethane	BYH0763-BLK1	ND	ug/L	0.50	0.16	
Dibromomethane	BYH0763-BLK1	ND	ug/L	0.50	0.24	
1,2-Dichlorobenzene	BYH0763-BLK1	ND	ug/L	0.50	0.072	
1,3-Dichlorobenzene	BYH0763-BLK1	ND	ug/L	0.50	0.15	
1,4-Dichlorobenzene	BYH0763-BLK1	ND	ug/L	0.50	0.062	
Dichlorodifluoromethane	BYH0763-BLK1	ND	ug/L	0.50	0.099	
1,1-Dichloroethane	BYH0763-BLK1	ND	ug/L	0.50	0.11	
1,2-Dichloroethane	BYH0763-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	BYH0763-BLK1	ND	ug/L	0.50	0.18	
cis-1,2-Dichloroethene	BYH0763-BLK1	ND	ug/L	0.50	0.085	
trans-1,2-Dichloroethene	BYH0763-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloropropane	BYH0763-BLK1	ND	ug/L	0.50	0.13	
1,3-Dichloropropane	BYH0763-BLK1	ND	ug/L	0.50	0.086	
2,2-Dichloropropane	BYH0763-BLK1	ND	ug/L	0.50	0.13	
1,1-Dichloropropene	BYH0763-BLK1	ND	ug/L	0.50	0.085	
cis-1,3-Dichloropropene	BYH0763-BLK1	ND	ug/L	0.50	0.14	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYH0763						
trans-1,3-Dichloropropene	BYH0763-BLK1	ND	ug/L	0.50	0.079	
Ethylbenzene	BYH0763-BLK1	ND	ug/L	0.50	0.098	
Hexachlorobutadiene	BYH0763-BLK1	ND	ug/L	0.50	0.17	
Isopropylbenzene	BYH0763-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	BYH0763-BLK1	ND	ug/L	0.50	0.12	
Methylene chloride	BYH0763-BLK1	ND	ug/L	1.0	0.48	
Methyl t-butyl ether	BYH0763-BLK1	ND	ug/L	0.50	0.11	
Naphthalene	BYH0763-BLK1	ND	ug/L	0.50	0.36	
n-Propylbenzene	BYH0763-BLK1	ND	ug/L	0.50	0.11	
Styrene	BYH0763-BLK1	ND	ug/L	0.50	0.068	
1,1,1,2-Tetrachloroethane	BYH0763-BLK1	ND	ug/L	0.50	0.18	
1,1,2,2-Tetrachloroethane	BYH0763-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	BYH0763-BLK1	ND	ug/L	0.50	0.13	
Toluene	BYH0763-BLK1	ND	ug/L	0.50	0.093	
1,2,3-Trichlorobenzene	BYH0763-BLK1	ND	ug/L	0.50	0.16	
1,2,4-Trichlorobenzene	BYH0763-BLK1	ND	ug/L	0.50	0.19	
1,1,1-Trichloroethane	BYH0763-BLK1	ND	ug/L	0.50	0.11	
1,1,2-Trichloroethane	BYH0763-BLK1	ND	ug/L	0.50	0.16	
Trichloroethene	BYH0763-BLK1	ND	ug/L	0.50	0.085	
Trichlorofluoromethane	BYH0763-BLK1	ND	ug/L	0.50	0.13	
1,2,3-Trichloropropane	BYH0763-BLK1	ND	ug/L	1.0	0.24	
1,1,2-Trichloro-1,2,2-trifluoroethane	BYH0763-BLK1	ND	ug/L	0.50	0.15	
1,2,4-Trimethylbenzene	BYH0763-BLK1	ND	ug/L	0.50	0.12	
1,3,5-Trimethylbenzene	BYH0763-BLK1	ND	ug/L	0.50	0.12	
Vinyl chloride	BYH0763-BLK1	ND	ug/L	0.50	0.12	
Total Xylenes	BYH0763-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BYH0763-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BYH0763-BLK1	ND	ug/L	0.50	0.082	
1,2-Dichloroethane-d4 (Surrogate)	BYH0763-BLK1	99.2	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BYH0763-BLK1	95.9	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BYH0763-BLK1	91.1	%	80 - 120 (LCL - UCL)		
QC Batch ID: BYH0764						
Benzene	BYH0764-BLK1	ND	ug/L	0.50	0.083	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYH0764						
Bromobenzene	BYH0764-BLK1	ND	ug/L	0.50	0.13	
Bromochloromethane	BYH0764-BLK1	ND	ug/L	0.50	0.24	
Bromodichloromethane	BYH0764-BLK1	ND	ug/L	0.50	0.14	
Bromoform	BYH0764-BLK1	ND	ug/L	0.50	0.27	
Bromomethane	BYH0764-BLK1	ND	ug/L	1.0	0.25	
n-Butylbenzene	BYH0764-BLK1	ND	ug/L	0.50	0.11	
sec-Butylbenzene	BYH0764-BLK1	ND	ug/L	0.50	0.15	
tert-Butylbenzene	BYH0764-BLK1	ND	ug/L	0.50	0.13	
Carbon tetrachloride	BYH0764-BLK1	ND	ug/L	0.50	0.18	
Chlorobenzene	BYH0764-BLK1	ND	ug/L	0.50	0.093	
Chloroethane	BYH0764-BLK1	ND	ug/L	0.50	0.14	
Chloroform	BYH0764-BLK1	ND	ug/L	0.50	0.12	
Chloromethane	BYH0764-BLK1	ND	ug/L	0.50	0.14	
2-Chlorotoluene	BYH0764-BLK1	ND	ug/L	0.50	0.20	
4-Chlorotoluene	BYH0764-BLK1	ND	ug/L	0.50	0.15	
Dibromochloromethane	BYH0764-BLK1	ND	ug/L	0.50	0.13	
1,2-Dibromo-3-chloropropane	BYH0764-BLK1	ND	ug/L	1.0	0.44	
1,2-Dibromoethane	BYH0764-BLK1	ND	ug/L	0.50	0.16	
Dibromomethane	BYH0764-BLK1	ND	ug/L	0.50	0.24	
1,2-Dichlorobenzene	BYH0764-BLK1	ND	ug/L	0.50	0.072	
1,3-Dichlorobenzene	BYH0764-BLK1	ND	ug/L	0.50	0.15	
1,4-Dichlorobenzene	BYH0764-BLK1	ND	ug/L	0.50	0.062	
Dichlorodifluoromethane	BYH0764-BLK1	ND	ug/L	0.50	0.099	
1,1-Dichloroethane	BYH0764-BLK1	ND	ug/L	0.50	0.11	
1,2-Dichloroethane	BYH0764-BLK1	ND	ug/L	0.50	0.17	
1,1-Dichloroethene	BYH0764-BLK1	ND	ug/L	0.50	0.18	
cis-1,2-Dichloroethene	BYH0764-BLK1	ND	ug/L	0.50	0.085	
trans-1,2-Dichloroethene	BYH0764-BLK1	ND	ug/L	0.50	0.15	
1,2-Dichloropropane	BYH0764-BLK1	ND	ug/L	0.50	0.13	
1,3-Dichloropropane	BYH0764-BLK1	ND	ug/L	0.50	0.086	
2,2-Dichloropropane	BYH0764-BLK1	ND	ug/L	0.50	0.13	
1,1-Dichloropropene	BYH0764-BLK1	ND	ug/L	0.50	0.085	
cis-1,3-Dichloropropene	BYH0764-BLK1	ND	ug/L	0.50	0.14	
trans-1,3-Dichloropropene	BYH0764-BLK1	ND	ug/L	0.50	0.079	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

**Laboratories, Inc.**

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYH0764						
Ethylbenzene	BYH0764-BLK1	ND	ug/L	0.50	0.098	
Hexachlorobutadiene	BYH0764-BLK1	ND	ug/L	0.50	0.17	
Isopropylbenzene	BYH0764-BLK1	ND	ug/L	0.50	0.14	
p-Isopropyltoluene	BYH0764-BLK1	ND	ug/L	0.50	0.12	
Methylene chloride	BYH0764-BLK1	ND	ug/L	1.0	0.48	
Methyl t-butyl ether	BYH0764-BLK1	ND	ug/L	0.50	0.11	
Naphthalene	BYH0764-BLK1	ND	ug/L	0.50	0.36	
n-Propylbenzene	BYH0764-BLK1	ND	ug/L	0.50	0.11	
Styrene	BYH0764-BLK1	ND	ug/L	0.50	0.068	
1,1,1,2-Tetrachloroethane	BYH0764-BLK1	ND	ug/L	0.50	0.18	
1,1,2,2-Tetrachloroethane	BYH0764-BLK1	ND	ug/L	0.50	0.17	
Tetrachloroethene	BYH0764-BLK1	ND	ug/L	0.50	0.13	
Toluene	BYH0764-BLK1	ND	ug/L	0.50	0.093	
1,2,3-Trichlorobenzene	BYH0764-BLK1	ND	ug/L	0.50	0.16	
1,2,4-Trichlorobenzene	BYH0764-BLK1	ND	ug/L	0.50	0.19	
1,1,1-Trichloroethane	BYH0764-BLK1	ND	ug/L	0.50	0.11	
1,1,2-Trichloroethane	BYH0764-BLK1	ND	ug/L	0.50	0.16	
Trichloroethene	BYH0764-BLK1	ND	ug/L	0.50	0.085	
Trichlorofluoromethane	BYH0764-BLK1	ND	ug/L	0.50	0.13	
1,2,3-Trichloropropane	BYH0764-BLK1	ND	ug/L	1.0	0.24	
1,1,2-Trichloro-1,2,2-trifluoroethane	BYH0764-BLK1	ND	ug/L	0.50	0.15	
1,2,4-Trimethylbenzene	BYH0764-BLK1	ND	ug/L	0.50	0.12	
1,3,5-Trimethylbenzene	BYH0764-BLK1	ND	ug/L	0.50	0.12	
Vinyl chloride	BYH0764-BLK1	ND	ug/L	0.50	0.12	
Total Xylenes	BYH0764-BLK1	ND	ug/L	1.0	0.36	
p- & m-Xylenes	BYH0764-BLK1	ND	ug/L	0.50	0.28	
o-Xylene	BYH0764-BLK1	ND	ug/L	0.50	0.082	
1,2-Dichloroethane-d4 (Surrogate)	BYH0764-BLK1	101	%	75 - 125 (LCL - UCL)		
Toluene-d8 (Surrogate)	BYH0764-BLK1	97.4	%	80 - 120 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BYH0764-BLK1	86.5	%	80 - 120 (LCL - UCL)		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

**BC Laboratories, Inc.**

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla**Volatile Organic Analysis (EPA Method 8260B)****Quality Control Report - Laboratory Control Sample**

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	Quals
QC Batch ID: BYH0763										
Benzene	BYH0763-BS1	LCS	24.740	25.000	ug/L	99.0		70 - 130		
Bromodichloromethane	BYH0763-BS1	LCS	25.850	25.000	ug/L	103		70 - 130		
Chlorobenzene	BYH0763-BS1	LCS	24.610	25.000	ug/L	98.4		70 - 130		
Chloroethane	BYH0763-BS1	LCS	29.620	25.000	ug/L	118		70 - 130		
1,4-Dichlorobenzene	BYH0763-BS1	LCS	25.090	25.000	ug/L	100		70 - 130		
1,1-Dichloroethane	BYH0763-BS1	LCS	25.910	25.000	ug/L	104		70 - 130		
1,1-Dichloroethene	BYH0763-BS1	LCS	28.330	25.000	ug/L	113		70 - 130		
Toluene	BYH0763-BS1	LCS	26.260	25.000	ug/L	105		70 - 130		
Trichloroethene	BYH0763-BS1	LCS	27.000	25.000	ug/L	108		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BYH0763-BS1	LCS	9.5300	10.000	ug/L	95.3		75 - 125		
Toluene-d8 (Surrogate)	BYH0763-BS1	LCS	10.020	10.000	ug/L	100		80 - 120		
4-Bromofluorobenzene (Surrogate)	BYH0763-BS1	LCS	9.6000	10.000	ug/L	96.0		80 - 120		
QC Batch ID: BYH0764										
Benzene	BYH0764-BS1	LCS	23.930	25.000	ug/L	95.7		70 - 130		
Bromodichloromethane	BYH0764-BS1	LCS	25.740	25.000	ug/L	103		70 - 130		
Chlorobenzene	BYH0764-BS1	LCS	24.580	25.000	ug/L	98.3		70 - 130		
Chloroethane	BYH0764-BS1	LCS	29.730	25.000	ug/L	119		70 - 130		
1,4-Dichlorobenzene	BYH0764-BS1	LCS	25.160	25.000	ug/L	101		70 - 130		
1,1-Dichloroethane	BYH0764-BS1	LCS	24.300	25.000	ug/L	97.2		70 - 130		
1,1-Dichloroethene	BYH0764-BS1	LCS	26.580	25.000	ug/L	106		70 - 130		
Toluene	BYH0764-BS1	LCS	25.530	25.000	ug/L	102		70 - 130		
Trichloroethene	BYH0764-BS1	LCS	26.960	25.000	ug/L	108		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BYH0764-BS1	LCS	9.5400	10.000	ug/L	95.4		75 - 125		
Toluene-d8 (Surrogate)	BYH0764-BS1	LCS	10.280	10.000	ug/L	103		80 - 120		
4-Bromofluorobenzene (Surrogate)	BYH0764-BS1	LCS	9.4100	10.000	ug/L	94.1		80 - 120		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22

Project: Produced Water Pond Testing

Project Number: Fourstar

Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: BYH0763		Used client sample: N									
Benzene	MS	1516891-53	ND	25.200	25.000	ug/L		101		70 - 130	
	MSD	1516891-53	ND	24.650	25.000	ug/L	2.2	98.6	20	70 - 130	
Bromodichloromethane	MS	1516891-53	ND	26.540	25.000	ug/L		106		70 - 130	
	MSD	1516891-53	ND	26.220	25.000	ug/L	1.2	105	20	70 - 130	
Chlorobenzene	MS	1516891-53	ND	24.610	25.000	ug/L		98.4		70 - 130	
	MSD	1516891-53	ND	24.480	25.000	ug/L	0.5	97.9	20	70 - 130	
Chloroethane	MS	1516891-53	ND	30.020	25.000	ug/L		120		70 - 130	
	MSD	1516891-53	ND	28.230	25.000	ug/L	6.1	113	20	70 - 130	
1,4-Dichlorobenzene	MS	1516891-53	ND	24.850	25.000	ug/L		99.4		70 - 130	
	MSD	1516891-53	ND	24.800	25.000	ug/L	0.2	99.2	20	70 - 130	
1,1-Dichloroethane	MS	1516891-53	ND	25.940	25.000	ug/L		104		70 - 130	
	MSD	1516891-53	ND	25.660	25.000	ug/L	1.1	103	20	70 - 130	
1,1-Dichloroethene	MS	1516891-53	ND	28.680	25.000	ug/L		115		70 - 130	
	MSD	1516891-53	ND	28.500	25.000	ug/L	0.6	114	20	70 - 130	
Toluene	MS	1516891-53	ND	27.100	25.000	ug/L		108		70 - 130	
	MSD	1516891-53	ND	26.210	25.000	ug/L	3.3	105	20	70 - 130	
Trichloroethene	MS	1516891-53	ND	27.780	25.000	ug/L		111		70 - 130	
	MSD	1516891-53	ND	27.010	25.000	ug/L	2.8	108	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1516891-53	ND	9.2200	10.000	ug/L		92.2		75 - 125	
	MSD	1516891-53	ND	9.5000	10.000	ug/L	3.0	95.0		75 - 125	
Toluene-d8 (Surrogate)	MS	1516891-53	ND	10.280	10.000	ug/L		103		80 - 120	
	MSD	1516891-53	ND	10.070	10.000	ug/L	2.1	101		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1516891-53	ND	9.4300	10.000	ug/L		94.3		80 - 120	
	MSD	1516891-53	ND	9.8400	10.000	ug/L	4.3	98.4		80 - 120	
QC Batch ID: BYH0764		Used client sample: N									
Benzene	MS	1516891-54	ND	24.760	25.000	ug/L		99.0		70 - 130	
	MSD	1516891-54	ND	25.190	25.000	ug/L	1.7	101	20	70 - 130	
Bromodichloromethane	MS	1516891-54	ND	26.570	25.000	ug/L		106		70 - 130	
	MSD	1516891-54	ND	26.680	25.000	ug/L	0.4	107	20	70 - 130	
Chlorobenzene	MS	1516891-54	ND	24.650	25.000	ug/L		98.6		70 - 130	
	MSD	1516891-54	ND	24.470	25.000	ug/L	0.7	97.9	20	70 - 130	
Chloroethane	MS	1516891-54	ND	30.040	25.000	ug/L		120		70 - 130	
	MSD	1516891-54	ND	28.540	25.000	ug/L	5.1	114	20	70 - 130	
1,4-Dichlorobenzene	MS	1516891-54	ND	26.100	25.000	ug/L		104		70 - 130	
	MSD	1516891-54	ND	25.350	25.000	ug/L	2.9	101	20	70 - 130	
1,1-Dichloroethane	MS	1516891-54	ND	25.170	25.000	ug/L		101		70 - 130	
	MSD	1516891-54	ND	25.730	25.000	ug/L	2.2	103	20	70 - 130	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22

Project: Produced Water Pond Testing

Project Number: Fourstar

Project Manager: Kelsey Padilla

Volatile Organic Analysis (EPA Method 8260B)

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: BYH0764		Used client sample: N									
1,1-Dichloroethene	MS	1516891-54	ND	27.010	25.000	ug/L		108		70 - 130	
	MSD	1516891-54	ND	28.320	25.000	ug/L	4.7	113	20	70 - 130	
Toluene	MS	1516891-54	ND	25.730	25.000	ug/L		103		70 - 130	
	MSD	1516891-54	ND	26.380	25.000	ug/L	2.5	106	20	70 - 130	
Trichloroethene	MS	1516891-54	ND	27.420	25.000	ug/L		110		70 - 130	
	MSD	1516891-54	ND	26.740	25.000	ug/L	2.5	107	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	MS	1516891-54	ND	9.8300	10.000	ug/L		98.3		75 - 125	
	MSD	1516891-54	ND	9.6600	10.000	ug/L	1.7	96.6		75 - 125	
Toluene-d8 (Surrogate)	MS	1516891-54	ND	10.070	10.000	ug/L		101		80 - 120	
	MSD	1516891-54	ND	9.9800	10.000	ug/L	0.9	99.8		80 - 120	
4-Bromofluorobenzene (Surrogate)	MS	1516891-54	ND	9.8800	10.000	ug/L		98.8		80 - 120	
	MSD	1516891-54	ND	9.3500	10.000	ug/L	5.5	93.5		80 - 120	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYH1030.						
Acenaphthene	BYH1030-BLK1	ND	ug/L	0.10	0.055	
Acenaphthylene	BYH1030-BLK1	ND	ug/L	0.10	0.047	
Anthracene	BYH1030-BLK1	ND	ug/L	0.10	0.017	
Benzo[a]anthracene	BYH1030-BLK1	ND	ug/L	0.10	0.026	
Benzo[b]fluoranthene	BYH1030-BLK1	ND	ug/L	0.10	0.040	
Benzo[k]fluoranthene	BYH1030-BLK1	ND	ug/L	0.10	0.051	
Benzo[a]pyrene	BYH1030-BLK1	ND	ug/L	0.10	0.026	
Benzo[g,h,i]perylene	BYH1030-BLK1	ND	ug/L	0.10	0.043	
Chrysene	BYH1030-BLK1	ND	ug/L	0.10	0.022	
Dibenzo[a,h]anthracene	BYH1030-BLK1	ND	ug/L	0.10	0.044	
Fluoranthene	BYH1030-BLK1	ND	ug/L	0.10	0.012	
Fluorene	BYH1030-BLK1	ND	ug/L	0.10	0.030	
Indeno[1,2,3-cd]pyrene	BYH1030-BLK1	ND	ug/L	0.10	0.044	
Naphthalene	BYH1030-BLK1	ND	ug/L	0.10	0.077	
Phenanthrene	BYH1030-BLK1	ND	ug/L	0.10	0.022	
Pyrene	BYH1030-BLK1	ND	ug/L	0.10	0.022	
Nitrobenzene-d5 (Surrogate)	BYH1030-BLK1	81.4	%	40 - 130 (LCL - UCL)		
2-Fluorobiphenyl (Surrogate)	BYH1030-BLK1	77.8	%	50 - 120 (LCL - UCL)		
p-Terphenyl-d14 (Surrogate)	BYH1030-BLK1	157	%	40 - 130 (LCL - UCL)		S09

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	Quals
QC Batch ID: BYH1030										
Acenaphthene	BYH1030-BS1	LCS	0.95447	1.0000	ug/L	95.4		60 - 110		
Acenaphthylene	BYH1030-BS1	LCS	1.0915	1.0000	ug/L	109		60 - 120		
Anthracene	BYH1030-BS1	LCS	1.2833	1.0000	ug/L	128		60 - 130		
Benzo[a]anthracene	BYH1030-BS1	LCS	0.89920	1.0000	ug/L	89.9		60 - 130		
Benzo[b]fluoranthene	BYH1030-BS1	LCS	0.73772	1.0000	ug/L	73.8		50 - 130		
Benzo[k]fluoranthene	BYH1030-BS1	LCS	1.0571	1.0000	ug/L	106		60 - 120		
Benzo[a]pyrene	BYH1030-BS1	LCS	1.0327	1.0000	ug/L	103		60 - 120		
Benzo[g,h,i]perylene	BYH1030-BS1	LCS	0.91858	1.0000	ug/L	91.9		40 - 120		
Chrysene	BYH1030-BS1	LCS	0.82824	1.0000	ug/L	82.8		60 - 110		
Dibenzo[a,h]anthracene	BYH1030-BS1	LCS	0.66432	1.0000	ug/L	66.4		40 - 120		
Fluoranthene	BYH1030-BS1	LCS	0.96108	1.0000	ug/L	96.1		60 - 120		
Fluorene	BYH1030-BS1	LCS	1.0172	1.0000	ug/L	102		60 - 120		
Indeno[1,2,3-cd]pyrene	BYH1030-BS1	LCS	0.80023	1.0000	ug/L	80.0		40 - 130		
Naphthalene	BYH1030-BS1	LCS	0.90618	1.0000	ug/L	90.6		60 - 110		
Phenanthrene	BYH1030-BS1	LCS	0.95832	1.0000	ug/L	95.8		60 - 120		
Pyrene	BYH1030-BS1	LCS	2.0937	1.0000	ug/L	209		50 - 125		L01
Nitrobenzene-d5 (Surrogate)	BYH1030-BS1	LCS	3.3240	4.0000	ug/L	83.1		40 - 130		
2-Fluorobiphenyl (Surrogate)	BYH1030-BS1	LCS	3.4567	4.0000	ug/L	86.4		50 - 120		
p-Terphenyl-d14 (Surrogate)	BYH1030-BS1	LCS	7.1208	4.0000	ug/L	178		40 - 130		S09

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

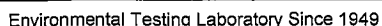
Polynuclear Aromatic Hydrocarbons (EPA Method 8270C-SIM)

Quality Control Report - Precision & Accuracy

Control Limits										
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Percent Recovery	Lab Quals
QC Batch ID: BYH1030		Used client sample: N								
Acenaphthene	MS	1516891-68	ND	0.73261	1.0000	ug/L		73.3		60 - 110
	MSD	1516891-68	ND	0.87356	1.0000	ug/L	17.6	87.4	30	60 - 110
Acenaphthylene	MS	1516891-68	ND	0.81748	1.0000	ug/L		81.7		60 - 120
	MSD	1516891-68	ND	0.97180	1.0000	ug/L	17.3	97.2	30	60 - 120
Anthracene	MS	1516891-68	ND	1.0014	1.0000	ug/L		100		60 - 130
	MSD	1516891-68	ND	1.1779	1.0000	ug/L	16.2	118	30	60 - 130
Benzo[a]anthracene	MS	1516891-68	ND	0.64157	1.0000	ug/L		64.2		60 - 120
	MSD	1516891-68	ND	0.73110	1.0000	ug/L	13.0	73.1	30	60 - 120
Benzo[b]fluoranthene	MS	1516891-68	ND	0.59754	1.0000	ug/L		59.8		50 - 130
	MSD	1516891-68	ND	0.61847	1.0000	ug/L	3.4	61.8	30	50 - 130
Benzo[k]fluoranthene	MS	1516891-68	ND	0.82157	1.0000	ug/L		82.2		60 - 120
	MSD	1516891-68	ND	1.0155	1.0000	ug/L	21.1	102	30	60 - 120
Benzo[a]pyrene	MS	1516891-68	ND	0.84489	1.0000	ug/L		84.5		60 - 120
	MSD	1516891-68	ND	0.93215	1.0000	ug/L	9.8	93.2	30	60 - 120
Benzo[g,h,i]perylene	MS	1516891-68	ND	0.69765	1.0000	ug/L		69.8		40 - 120
	MSD	1516891-68	ND	0.87112	1.0000	ug/L	22.1	87.1	30	40 - 120
Chrysene	MS	1516891-68	ND	0.65355	1.0000	ug/L		65.4		60 - 110
	MSD	1516891-68	ND	0.75385	1.0000	ug/L	14.3	75.4	30	60 - 110
Dibenzo[a,h]anthracene	MS	1516891-68	ND	0.53005	1.0000	ug/L		53.0		40 - 120
	MSD	1516891-68	ND	0.62565	1.0000	ug/L	16.5	62.6	30	40 - 120
Fluoranthene	MS	1516891-68	ND	0.72912	1.0000	ug/L		72.9		60 - 120
	MSD	1516891-68	ND	0.83114	1.0000	ug/L	13.1	83.1	30	60 - 120
Fluorene	MS	1516891-68	ND	0.80415	1.0000	ug/L		80.4		60 - 120
	MSD	1516891-68	ND	0.98175	1.0000	ug/L	19.9	98.2	30	60 - 120
Indeno[1,2,3-cd]pyrene	MS	1516891-68	ND	0.61415	1.0000	ug/L		61.4		40 - 130
	MSD	1516891-68	ND	0.73932	1.0000	ug/L	18.5	73.9	30	40 - 130
Naphthalene	MS	1516891-68	ND	0.70410	1.0000	ug/L		70.4		60 - 110
	MSD	1516891-68	ND	0.84442	1.0000	ug/L	18.1	84.4	30	60 - 110
Phenanthrene	MS	1516891-68	ND	0.71158	1.0000	ug/L		71.2		60 - 120
	MSD	1516891-68	ND	0.85360	1.0000	ug/L	18.1	85.4	30	60 - 120
Pyrene	MS	1516891-68	ND	1.6614	1.0000	ug/L		166		50 - 125 Q03
	MSD	1516891-68	ND	2.1051	1.0000	ug/L	23.6	211	30	50 - 125 Q03
Nitrobenzene-d5 (Surrogate)	MS	1516891-68	ND	2.6098	4.0000	ug/L		65.2		40 - 130
	MSD	1516891-68	ND	3.1383	4.0000	ug/L	18.4	78.5		40 - 130
2-Fluorobiphenyl (Surrogate)	MS	1516891-68	ND	2.5918	4.0000	ug/L		64.8		50 - 120
	MSD	1516891-68	ND	3.0786	4.0000	ug/L	17.2	77.0		50 - 120

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, détachement or third party interpretation.





BC Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYH0553						
Gasoline Range Organics (C4 - C12)	BYH0553-BLK1	ND	ug/L	50	8.8	
a,a,a-Trifluorotoluene (FID Surrogate)	BYH0553-BLK1	93.8	%	70 - 130 (LCL - UCL)		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



BC Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: BYH0553										
Gasoline Range Organics (C4 - C12)	BYH0553-BS1	LCS	1147.3	1000.0	ug/L	115		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BYH0553-BS1	LCS	34.498	40.000	ug/L	86.2		70 - 130		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



BC Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab Quals
									RPD	Percent Recovery	
QC Batch ID: BYH0553		Used client sample: N									
Gasoline Range Organics (C4 - C12)	MS	1516891-22	ND	1077.2	1000.0	ug/L		108		70 - 130	
	MSD	1516891-22	ND	976.13	1000.0	ug/L	9.8	97.6	20	70 - 130	
a,a,a-Trifluorotoluene (FID Surrogate)	MS	1516891-22	ND	34.761	40.000	ug/L		86.9		70 - 130	
	MSD	1516891-22	ND	38.207	40.000	ug/L	9.4	95.5		70 - 130	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

**BC Laboratories, Inc.**

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYH0882						
TPH - Gasoline	BYH0882-BLK1	ND	ug/L	500	200	
TPH - Diesel (FFP)	BYH0882-BLK1	ND	ug/L	200	34	
TPH - Motor Oil	BYH0882-BLK1	ND	ug/L	500	66	
Tetracosane (Surrogate)	BYH0882-BLK1	84.5	%	37 - 134 (LCL - UCL)		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Report ID: 1000389266

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Page 37 of 70



Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: BYH0882										
TPH - Diesel (FFP)	BYH0882-BS1	LCS	1914.6	2500.0	ug/L	76.6		52 - 128		
Tetracosane (Surrogate)	BYH0882-BS1	LCS	88.165	101.87	ug/L	86.5		37 - 134		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



BC Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits			Lab Quals
								Percent Recovery	RPD	Percent Recovery	
QC Batch ID: BYH0882		Used client sample: N									
TPH - Diesel (FFP)	MS	1516891-51	ND	1861.2	2500.0	ug/L		74.4		50 - 127	
	MSD	1516891-51	ND	1952.1	2500.0	ug/L	4.8	78.1	24	50 - 127	
Tetracosane (Surrogate)	MS	1516891-51	ND	89.780	101.87	ug/L		88.1		37 - 134	
	MSD	1516891-51	ND	90.450	101.87	ug/L	0.7	88.8		37 - 134	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYH0169						
Bromide	BYH0169-BLK1	ND	mg/L	0.10	0.035	
Chloride	BYH0169-BLK1	ND	mg/L	0.50	0.061	
Nitrate as NO3	BYH0169-BLK1	ND	mg/L	0.44	0.078	
Sulfate	BYH0169-BLK1	ND	mg/L	1.0	0.10	
QC Batch ID: BYH0297						
Bicarbonate Alkalinity as CaCO3	BYH0297-BLK1	ND	mg/L	4.1	4.1	
Carbonate Alkalinity as CaCO3	BYH0297-BLK1	ND	mg/L	4.1	4.1	
Hydroxide Alkalinity as CaCO3	BYH0297-BLK1	ND	mg/L	4.1	4.1	
Total Alkalinity as CaCO3	BYH0297-BLK1	ND	mg/L	4.1	4.1	
QC Batch ID: BYH0419						
Total Dissolved Solids @ 180 C	BYH0419-BLK1	ND	mg/L	6.7	6.7	
QC Batch ID: BYH0471						
Total Calcium	BYH0471-BLK1	0.021257	mg/L	0.10	0.015	J
Total Magnesium	BYH0471-BLK1	0.029459	mg/L	0.050	0.019	J
Total Sodium	BYH0471-BLK1	ND	mg/L	0.50	0.051	
Total Potassium	BYH0471-BLK1	ND	mg/L	1.0	0.13	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: BYH0169										
Bromide	BYH0169-BS1	LCS	2.0770	2.0000	mg/L	104		90 - 110		
Chloride	BYH0169-BS1	LCS	51.563	50.000	mg/L	103		90 - 110		
Nitrate as NO3	BYH0169-BS1	LCS	22.448	22.134	mg/L	101		90 - 110		
Sulfate	BYH0169-BS1	LCS	102.02	100.00	mg/L	102		90 - 110		
QC Batch ID: BYH0297										
Total Alkalinity as CaCO3	BYH0297-BS3	LCS	104.82	100.00	mg/L	105		90 - 110		
QC Batch ID: BYH0419										
Total Dissolved Solids @ 180 C	BYH0419-BS1	LCS	575.00	586.00	mg/L	98.1		90 - 110		
QC Batch ID: BYH0471										
Total Calcium	BYH0471-BS1	LCS	10.928	10.000	mg/L	109		85 - 115		
Total Magnesium	BYH0471-BS1	LCS	9.8502	10.000	mg/L	98.5		85 - 115		
Total Sodium	BYH0471-BS1	LCS	10.150	10.000	mg/L	101		85 - 115		
Total Potassium	BYH0471-BS1	LCS	9.9637	10.000	mg/L	99.6		85 - 115		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: BYH0169		Used client sample: N									
Bromide	DUP	1518824-01	0.29100	0.29100		mg/L	0		10		
	MS	1518824-01	0.29100	2.3697	2.0202	mg/L		103		80 - 120	
	MSD	1518824-01	0.29100	2.3768	2.0202	mg/L	0.3	103	10	80 - 120	
Chloride	DUP	1518824-01	32.768	32.666		mg/L	0.3		10		
	MS	1518824-01	32.768	88.081	50.505	mg/L		110		80 - 120	
	MSD	1518824-01	32.768	88.181	50.505	mg/L	0.1	110	10	80 - 120	
Nitrate as NO3	DUP	1518824-01	24.272	24.259		mg/L	0.1		10		
	MS	1518824-01	24.272	48.073	22.358	mg/L		106		80 - 120	
	MSD	1518824-01	24.272	48.194	22.358	mg/L	0.3	107	10	80 - 120	
Sulfate	DUP	1518824-01	49.735	49.634		mg/L	0.2		10		
	MS	1518824-01	49.735	161.37	101.01	mg/L		111		80 - 120	
	MSD	1518824-01	49.735	161.57	101.01	mg/L	0.1	111	10	80 - 120	
QC Batch ID: BYH0297		Used client sample: N									
Bicarbonate Alkalinity as CaCO3	DUP	1518795-03	621.61	624.66		mg/L	0.5		10		
Carbonate Alkalinity as CaCO3	DUP	1518795-03	ND	ND		mg/L			10		
Hydroxide Alkalinity as CaCO3	DUP	1518795-03	ND	ND		mg/L			10		
Total Alkalinity as CaCO3	DUP	1518795-03	621.61	624.66		mg/L	0.5		10		
QC Batch ID: BYH0419		Used client sample: N									
Total Dissolved Solids @ 180 C	DUP	1519002-01	693.33	699.99		mg/L	1.0		10		
QC Batch ID: BYH0471		Used client sample: N									
Total Calcium	DUP	1518931-03	63.036	62.066		mg/L	1.6		20		
	MS	1518931-03	63.036	70.140	10.000	mg/L		71.0		75 - 125	A03
	MSD	1518931-03	63.036	73.487	10.000	mg/L	4.7	105	20	75 - 125	
Total Magnesium	DUP	1518931-03	28.416	25.785		mg/L	9.7		20		
	MS	1518931-03	28.416	37.117	10.000	mg/L		87.0		75 - 125	
	MSD	1518931-03	28.416	38.978	10.000	mg/L	4.9	106	20	75 - 125	
Total Sodium	DUP	1518931-03	25.604	25.028		mg/L	2.3		20		
	MS	1518931-03	25.604	35.139	10.000	mg/L		95.3		75 - 125	
	MSD	1518931-03	25.604	36.711	10.000	mg/L	4.4	111	20	75 - 125	
Total Potassium	DUP	1518931-03	4.1608	4.1145		mg/L	1.1		20		
	MS	1518931-03	4.1608	15.028	10.000	mg/L		109		75 - 125	
	MSD	1518931-03	4.1608	15.632	10.000	mg/L	3.9	115	20	75 - 125	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Metals Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: BYH0355						
Hexavalent Chromium	BYH0355-BLK1	ND	ug/L	2.0	0.70	
QC Batch ID: BYH0461						
Total Recoverable Uranium	BYH0461-BLK1	ND	pCi/L	0.67	0.067	
Total Recoverable Uranium	BYH0461-BLK1	ND	ug/L	1.0	0.10	
QC Batch ID: BYH0471						
Total Antimony	BYH0471-BLK1	ND	ug/L	100	8.5	
Total Arsenic	BYH0471-BLK1	ND	ug/L	50	7.8	
Total Barium	BYH0471-BLK1	ND	ug/L	10	3.5	
Total Beryllium	BYH0471-BLK1	ND	ug/L	10	0.50	
Total Boron	BYH0471-BLK1	0.031009	mg/L	0.10	0.013	J
Total Cadmium	BYH0471-BLK1	ND	ug/L	10	1.1	
Total Chromium	BYH0471-BLK1	ND	ug/L	10	1.1	
Total Cobalt	BYH0471-BLK1	ND	ug/L	50	1.3	
Total Copper	BYH0471-BLK1	ND	ug/L	10	1.1	
Total Iron	BYH0471-BLK1	ND	mg/L	0.050	0.030	
Total Lead	BYH0471-BLK1	ND	ug/L	50	4.0	
Total Lithium	BYH0471-BLK1	ND	mg/L	0.020	0.0062	
Total Manganese	BYH0471-BLK1	ND	mg/L	0.010	0.0040	
Total Molybdenum	BYH0471-BLK1	ND	ug/L	50	1.2	
Total Nickel	BYH0471-BLK1	ND	ug/L	10	2.0	
Total Selenium	BYH0471-BLK1	ND	ug/L	100	15	
Total Silver	BYH0471-BLK1	ND	ug/L	10	1.9	
Total Strontium	BYH0471-BLK1	ND	mg/L	0.010	0.0010	
Total Thallium	BYH0471-BLK1	ND	ug/L	100	24	
Total Vanadium	BYH0471-BLK1	ND	ug/L	10	2.2	
Total Zinc	BYH0471-BLK1	ND	ug/L	50	2.3	
QC Batch ID: BYH0541						
Total Mercury	BYH0541-BLK1	ND	ug/L	0.20	0.033	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Metals Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	Quals
QC Batch ID: BYH0355										
Hexavalent Chromium	BYH0355-BS1	LCS	50.394	50.000	ug/L	101		85 - 115		
QC Batch ID: BYH0461										
Total Recoverable Uranium	BYH0461-BS1	LCS	28.195	26.800	pCi/L	105		85 - 115		
Total Recoverable Uranium	BYH0461-BS1	LCS	42.082	40.000	ug/L	105		85 - 115		
QC Batch ID: BYH0471										
Total Antimony	BYH0471-BS1	LCS	392.44	400.00	ug/L	98.1		85 - 115		
Total Arsenic	BYH0471-BS1	LCS	187.40	200.00	ug/L	93.7		85 - 115		
Total Barium	BYH0471-BS1	LCS	408.86	400.00	ug/L	102		85 - 115		
Total Beryllium	BYH0471-BS1	LCS	187.15	200.00	ug/L	93.6		85 - 115		
Total Boron	BYH0471-BS1	LCS	0.95459	1.0000	mg/L	95.5		85 - 115		
Total Cadmium	BYH0471-BS1	LCS	193.48	200.00	ug/L	96.7		85 - 115		
Total Chromium	BYH0471-BS1	LCS	194.03	200.00	ug/L	97.0		85 - 115		
Total Cobalt	BYH0471-BS1	LCS	194.00	200.00	ug/L	97.0		85 - 115		
Total Copper	BYH0471-BS1	LCS	360.03	400.00	ug/L	90.0		85 - 115		
Total Iron	BYH0471-BS1	LCS	1.0448	1.0000	mg/L	104		85 - 115		
Total Lead	BYH0471-BS1	LCS	394.59	400.00	ug/L	98.6		85 - 115		
Total Lithium	BYH0471-BS1	LCS	0.20163	0.20000	mg/L	101		85 - 115		
Total Manganese	BYH0471-BS1	LCS	0.48473	0.50000	mg/L	96.9		85 - 115		
Total Molybdenum	BYH0471-BS1	LCS	198.02	200.00	ug/L	99.0		85 - 115		
Total Nickel	BYH0471-BS1	LCS	391.01	400.00	ug/L	97.8		85 - 115		
Total Selenium	BYH0471-BS1	LCS	199.63	200.00	ug/L	99.8		85 - 115		
Total Silver	BYH0471-BS1	LCS	91.312	100.00	ug/L	91.3		85 - 115		
Total Strontium	BYH0471-BS1	LCS	0.51324	0.50000	mg/L	103		85 - 115		
Total Thallium	BYH0471-BS1	LCS	407.00	400.00	ug/L	102		85 - 115		
Total Vanadium	BYH0471-BS1	LCS	196.37	200.00	ug/L	98.2		85 - 115		
Total Zinc	BYH0471-BS1	LCS	468.65	500.00	ug/L	93.7		85 - 115		
QC Batch ID: BYH0541										
Total Mercury	BYH0541-BS1	LCS	1.0175	1.0000	ug/L	102		85 - 115		

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Metals Analysis

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: BYH0355		Used client sample: N									
Hexavalent Chromium	DUP	1518832-01	ND	ND		ug/L			10		
	MS	1518832-01	ND	52.412	52.632	ug/L		99.6		85 - 115	
	MSD	1518832-01	ND	51.061	52.632	ug/L	2.6	97.0	10	85 - 115	
QC Batch ID: BYH0461		Used client sample: N									
Total Recoverable Uranium	DUP	1519038-01	1.2060	1.1926		pCi/L	1.1		20		
	MS	1519038-01	1.2060	33.081	26.800	pCi/L		119		70 - 130	
	MSD	1519038-01	1.2060	33.955	26.800	pCi/L	2.6	122	20	70 - 130	
Total Recoverable Uranium	DUP	1519038-01	1.8000	1.7800		ug/L	1.1		20		
	MS	1519038-01	1.8000	49.375	40.000	ug/L		119		70 - 130	
	MSD	1519038-01	1.8000	50.679	40.000	ug/L	2.6	122	20	70 - 130	
QC Batch ID: BYH0471		Used client sample: N									
Total Antimony	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	430.97	400.00	ug/L		108		75 - 125	
	MSD	1518931-03	ND	447.36	400.00	ug/L	3.7	112	20	75 - 125	
Total Arsenic	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	202.90	200.00	ug/L		101		75 - 125	
	MSD	1518931-03	ND	224.92	200.00	ug/L	10.3	112	20	75 - 125	
Total Barium	DUP	1518931-03	155.62	151.25		ug/L	2.8		20		
	MS	1518931-03	155.62	595.00	400.00	ug/L		110		75 - 125	
	MSD	1518931-03	155.62	628.92	400.00	ug/L	5.5	118	20	75 - 125	
Total Beryllium	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	209.22	200.00	ug/L		105		75 - 125	
	MSD	1518931-03	ND	220.14	200.00	ug/L	5.1	110	20	75 - 125	
Total Boron	DUP	1518931-03	0.067366	0.051226		mg/L	27.2		20		J,A02
	MS	1518931-03	0.067366	1.0697	1.0000	mg/L		100		75 - 125	
	MSD	1518931-03	0.067366	1.1223	1.0000	mg/L	4.8	105	20	75 - 125	
Total Cadmium	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	209.91	200.00	ug/L		105		75 - 125	
	MSD	1518931-03	ND	224.44	200.00	ug/L	6.7	112	20	75 - 125	
Total Chromium	DUP	1518931-03	9.6430	9.6365		ug/L	0.1		20		J
	MS	1518931-03	9.6430	219.48	200.00	ug/L		105		75 - 125	
	MSD	1518931-03	9.6430	230.23	200.00	ug/L	4.8	110	20	75 - 125	
Total Cobalt	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	204.50	200.00	ug/L		102		75 - 125	
	MSD	1518931-03	ND	217.22	200.00	ug/L	6.0	109	20	75 - 125	
Total Copper	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	379.25	400.00	ug/L		94.8		75 - 125	
	MSD	1518931-03	ND	400.67	400.00	ug/L	5.5	100	20	75 - 125	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Metals Analysis

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: BYH0471		Used client sample: N									
Total Iron	DUP	1518931-03	ND	ND		mg/L			20		
	MS	1518931-03	ND	1.1543	1.0000	mg/L		115		75 - 125	
	MSD	1518931-03	ND	1.2056	1.0000	mg/L	4.3	121	20	75 - 125	
Total Lead	DUP	1518931-03	4.2438	ND		ug/L			20		
	MS	1518931-03	4.2438	426.00	400.00	ug/L		105		75 - 125	
	MSD	1518931-03	4.2438	452.34	400.00	ug/L	6.0	112	20	75 - 125	
Total Lithium	DUP	1518931-03	ND	0.0080212		mg/L			20		J
	MS	1518931-03	ND	0.23276	0.20000	mg/L		116		75 - 125	
	MSD	1518931-03	ND	0.24353	0.20000	mg/L	4.5	122	20	75 - 125	
Total Manganese	DUP	1518931-03	ND	ND		mg/L			20		
	MS	1518931-03	ND	0.52938	0.50000	mg/L		106		75 - 125	
	MSD	1518931-03	ND	0.55770	0.50000	mg/L	5.2	112	20	75 - 125	
Total Molybdenum	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	214.25	200.00	ug/L		107		75 - 125	
	MSD	1518931-03	ND	229.71	200.00	ug/L	7.0	115	20	75 - 125	
Total Nickel	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	413.66	400.00	ug/L		103		75 - 125	
	MSD	1518931-03	ND	432.40	400.00	ug/L	4.4	108	20	75 - 125	
Total Selenium	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	218.91	200.00	ug/L		109		75 - 125	
	MSD	1518931-03	ND	244.97	200.00	ug/L	11.2	122	20	75 - 125	
Total Silver	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	101.89	100.00	ug/L		102		75 - 125	
	MSD	1518931-03	ND	106.48	100.00	ug/L	4.4	106	20	75 - 125	
Total Strontium	DUP	1518931-03	0.86513	0.84681		mg/L	2.1		20		
	MS	1518931-03	0.86513	1.3629	0.50000	mg/L		99.6		75 - 125	
	MSD	1518931-03	0.86513	1.4302	0.50000	mg/L	4.8	113	20	75 - 125	
Total Thallium	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	429.67	400.00	ug/L		107		75 - 125	
	MSD	1518931-03	ND	461.58	400.00	ug/L	7.2	115	20	75 - 125	
Total Vanadium	DUP	1518931-03	19.089	18.665		ug/L	2.2		20		
	MS	1518931-03	19.089	234.50	200.00	ug/L		108		75 - 125	
	MSD	1518931-03	19.089	245.66	200.00	ug/L	4.6	113	20	75 - 125	
Total Zinc	DUP	1518931-03	ND	ND		ug/L			20		
	MS	1518931-03	ND	492.08	500.00	ug/L		98.4		75 - 125	
	MSD	1518931-03	ND	517.62	500.00	ug/L	5.1	104	20	75 - 125	
QC Batch ID: BYH0541		Used client sample: N									

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Metals Analysis

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: BYH0541		Used client sample: N									
Total Mercury	DUP	1519108-01	0.052500	ND		ug/L			20		
	MS	1519108-01	0.052500	0.99000	1.0000	ug/L		93.8		70 - 130	
	MSD	1519108-01	0.052500	0.93250	1.0000	ug/L	6.0	88.0	20	70 - 130	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



BSK Associates Fresno
1414 Stanislaus St
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (FAX)

A5H0422

8/17/2015

Invoice: A517160

Kerrie Vaughan
BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308

RE: Report for A5H0422 General: Project Manager-Kerrie Vaughan

Dear Kerrie Vaughan,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 8/5/2015. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

If additional clarification of any information is required, please contact your Project Manager, Stephane Maupas, at (800) 877-8310 or (559) 497-2888 x212.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Kijuana Hartshorn, Project Coordinator



Accredited in Accordance with NELAP
ORELAP #4021

A5H0422 FINAL 08172015 1154

Printed: 8/17/2015

QA-RP-0001-10 Final.rpt

www.BSKAssociates.com

Page 1 of 9



A5H0422

General: Project Manager-Kerrie Vaughan

Case Narrative

Project and Report Details

Client: BC Laboratories
Report To: Kerrie Vaughan
Project #: 1518827
Received: 8/05/2015 - 17:23
Report Due: 8/17/2015

Invoice Details

Invoice To: BC Laboratories
Invoice Attn: Kerrie Vaughan
Project PO#: -

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt °C: 4.6

Containers Intact
COC/Labels Agree
Received On Wet Ice
Packing Material - Bubble Wrap
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

MS1.0 Matrix spike recoveries exceed control limits.

Report Distribution

Recipient(s)	Report Format	CC:
Kerrie Vaughan	FINAL.RPT	

A5H0422 FINAL 08172015 1154

Printed: 8/17/2015

QA-RP-0001-10 Final.rpt

www.BSKAssociates.com

Page 2 of 9

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



A5H0422

General: Project Manager-Kerrie Vaughan

1518827

Certificate of Analysis

Sample ID: A5H0422-01

Sampled By: Client

Sample Description: 1518827-01

Sample Date - Time: 08/03/15 - 10:05

Matrix: Water

Sample Type: Grab

BSK Associates Fresno

Radiological

Analyte	Method	Result	Units	Batch	Prepared	Analyzed	Qual
Gross Alpha	SM 7110C	ND	pCi/L	A509057	08/11/15	08/12/15	
1.65 Sigma Uncertainty		0.110	±				
MDA95		1200	pCi/L				

A5H0422 FINAL 08172015 1154

Printed: 8/17/2015

QA-RP-0001-10 Final.rpt

www.BSKAssociates.com

Page 3 of 9



A5H0422

General: Project Manager-Kerrie Vaughan

1518827

Certificate of Analysis

Sample ID: A5H0422-02

Sampled By: Client

Sample Description: 1518827-02

Sample Date - Time: 08/03/15 - 10:35

Matrix: Water

Sample Type: Grab

BSK Associates Fresno

Radiological

Analyte	Method	Result	Units	Batch	Prepared	Analyzed	Qual
Gross Alpha	SM 7110C	ND	pCi/L	A509057	08/11/15	08/12/15	
1.65 Sigma Uncertainty		0.191	±				
MDA95		1200	pCi/L				

A5H0422 FINAL 08172015 1154

Printed: 8/17/2015

QA-RP-0001-10 Final.rpt

www.BSKAssociates.com

Page 4 of 9

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



A5H0422

General: Project Manager-Kerrie Vaughan

BSK Associates Fresno
Radiological Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
---------	--------	----	-------	-------------	---------------	------	-------------	-----	-----------	---------------	------

SM 7110C - Quality Control

Batch: A509057

Prepared: 8/11/2015

Prep Method: EPA 00-02

Analyst: SAB

Blank (A509057-BLK1)

1.65 Sigma Uncertainty	ND		±							08/12/15	
Gross Alpha	ND	3	pCi/L							08/12/15	
MDA95	ND	0.00	pCi/L							08/12/15	

Blank Spike (A509057-BS1)

Gross Alpha	27.3	3	pCi/L	30		91	80-120			08/12/15	
-------------	------	---	-------	----	--	----	--------	--	--	----------	--

Blank Spike Dup (A509057-BSD1)

Gross Alpha	26.6	3	pCi/L	30		89	80-120	3	50	08/12/15	
-------------	------	---	-------	----	--	----	--------	---	----	----------	--

Matrix Spike (A509057-MS1), Source: A5H0189-01

Gross Alpha	56.2	3	pCi/L	120	ND	45	70-130			08/12/15	MS1.0 Low
-------------	------	---	-------	-----	----	----	--------	--	--	----------	-----------

Matrix Spike (A509057-MS2), Source: A5H0288-01

Gross Alpha	89.9	3	pCi/L	120	ND	75	70-130			08/12/15	
-------------	------	---	-------	-----	----	----	--------	--	--	----------	--

Matrix Spike Dup (A509057-MSD1), Source: A5H0189-01

Gross Alpha	69.5	3	pCi/L	120	ND	56	70-130	21	50	08/12/15	MS1.0 Low
-------------	------	---	-------	-----	----	----	--------	----	----	----------	-----------

Matrix Spike Dup (A509057-MSD2), Source: A5H0288-01

Gross Alpha	88.9	3	pCi/L	120	ND	74	70-130	1	50	08/12/15	
-------------	------	---	-------	-----	----	----	--------	---	----	----------	--

A5H0422 FINAL 08172015 1154

Printed: 8/17/2015

QA-RP-0001-10 Final.rpt

www.BSKAssociates.com

Page 5 of 9

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
 All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



A5H0422

General: Project Manager-Kerrie Vaughan

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170.1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAC program for the following parameters:

NA

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno

State of California - ELAP	1180	State of Hawaii	4021
State of Nevada	CA000792016-1	State of Oregon - NELAC	4021
EPA - UCMR3	CA00079	State of Washington	C997-15

Sacramento

State of California - ELAP 2435

Vancouver

State of Oregon - NELAC WA100008 State of Washington C824-14a

A5H0422 FINAL 08172015 1154

Printed: 8/17/2015

QA-RP-0001-10 Final.rpt

www.BSKAssociates.com

Page 6 of 9

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Subcontract Report for 1518827 PDF File Name: WO_1518827_SUB_BSKSA.pdf Page 7 of 9



A5H0422



08052015



BCLab4911

Turnaround: Standard

Due Date: 8/17/2015



BC Laboratories



Printed: 8/5/2015 5:47:04PM

Page 7 of 9

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Report ID: 1000389266

4100 Atlas Court Bakersfield, CA 93308 (661) 327-4911 FAX (661) 327-1918 www.bclabs.com

Page 54 of 70

SUBCONTRACT ORDER

BC Laboratories
1518827ASH0422
BCLab491108/05/2015
8

SENDING LABORATORY:

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911
FAX: 661-327-1918
Project Manager: Kerrie Vaughan

RECEIVING LABORATORY:

BSK Analytical Labs
1414 Stanislaus Street
Fresno, CA 93706
Phone: (800) 877-8310
FAX: (559) 485-6935

BSKSA

Analysis	Due	Expires	Comments
Sample ID: 1518827-01	Water	Sampled: 08/03/15 10:05	
EPA 900.0 Gross Alpha	08/17/15 17:00	01/31/16 10:05	Analyze water phase only results needed by 8/17/2015.
Containers supplied:	1- 1/4" PE (Red)		
Sample ID: 1518827-02	Water	Sampled: 08/03/15 10:35	
EPA 900.0 Gross Alpha	08/17/15 17:00	01/31/16 10:35	Analyze water phase only results needed by 8/17/2015.
Containers supplied:	F F		

Released By

Date

Received By

Date

Released By

Date

Received By

Date

Page 8 of 9

A5H0422
BCLab491108/05/2015
8

BSK Associates SR-FL-0002-14

Sample Integrity

BSK Bottles: Yes NoPage 2 of 1

Label

COC Info		Yes	No	NA	Yes	No	NA
COC Info	Was temperature within range? Chemistry $\leq 6^{\circ}\text{C}$ Micro $< 10^{\circ}\text{C}$	Yes	No	NA	Yes	No	NA
	If samples were taken today, is there evidence that chilling has begun?	Yes	No	NA	Yes	No	NA
	Did all bottles arrive unbroken and intact?	Yes	No	NA	Yes	No	NA
	Did all bottle labels agree with COC?	Yes	No	NA	Yes	No	NA
	Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes	No	NA	Yes	No	NA
		PM:		By/Time:			
Bottles Received	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1-2			
	Bact Na ₂ S ₂ O ₃						
	None (P) White Cap						
	Cr6 (P) Green Label NH ₄ OH(NH ₄) ₂ SO ₄ DW	Cl, pH > 8	Y	N			
	Cr6 (P) Pink Label NH ₄ OH(NH ₄) ₂ SO ₄ WW	pH 9.3-9.7	Y	N			
	Cr6 (P) Pink Label NH ₄ OH(NH ₄) ₂ SO ₄ 7189	pH 9.0-9.5	Y	N			
	24 HOUR HOLD TIME						
	HNO ₃ (P) Red Cap						
	H ₂ SO ₄ (P) op (AG) Yellow Cap Label	pH < 2	Y	N			
	NaOH (P) Green Cap	Cl, pH > 10	Y	N			
	NaOH / ZnAc (P)	pH > 9	Y	N			
	Dissolved Oxygen 300ml (g)						
	None (AG) 604/808/18082/825/632/832/833/837						
	HCl (AG) Blue Label O&G, Diesel						
	Na ₂ O ₃ HCl (AG) 525						
	Na ₂ S ₂ O ₃ 1 Liter (Brown P) 549						
	Na ₂ S ₂ O ₃ (AG) 547/515/915 THM 524						
	Na ₂ S ₂ O ₃ (CG) Blue Label 504, 505						
	Na ₂ S ₂ O ₃ / MCAA (CG) Orange Label 531	pH < 3	Y	N			
	NH ₄ Cl (AG) Purple Label 552						
	EDA (AG) Brown Label DBPs						
	HCL (CG) 524.2, BTEX, Gas, MTBE, 8260/624						
	Buffer pH 4 (CG)						
	None (CG)						
	H ₃ PO ₄ (CG) Salmon Label						
Other:							
Asbestos: 1 Liter Plastic W/ Foil							
Low Level Hg / Metals Double Baggie							
Bottled Water							
Clear Glass Jar: 250 / 500 / 1 Liter							
Soil Tube: Brass / Steel / Plastic							
Tedlar Bag / Plastic Bag							
Split	Container	Preservative	Date/Time/Initials	Container	Preservative	Date/Time/Initials	
	S P			S P			
	S P			S P			
Comments							

Labeled by: IR @ 1744Labels checked by: JH @ 17:59RUSH Paged by:

Page 9 of 9

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

August 25, 2015

Ms. Kerrie Vaughan
BC Laboratories
4100 Atlas Ct.
Bakersfield, CA 93308

RE: Project: 1518827
Pace Project No.: 30156088

Dear Ms. Vaughan:

Enclosed are the analytical results for sample(s) received by the laboratory on August 12, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carin A. Ferris

Carin Ferris
carin.ferris@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 1 of 13



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: 1518827
Pace Project No.: 30156088

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235

Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 2 of 13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: 1518827
Pace Project No.: 30156088

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30156088001	1518827-01	Water	08/03/15 10:05	08/12/15 10:10
30156088002	1518827-02	Water	08/03/15 10:35	08/12/15 10:10

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 3 of 13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 1518827
Pace Project No.: 30156088

Lab ID	Sample ID	Method	Analysts	Analytes Reported
30156088001	1518827-01	EPA 903.1	JC2	1
		EPA 904.0	JLW	1
30156088002	1518827-02	EPA 903.1	JC2	1
		EPA 904.0	JLW	1

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 4 of 13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 1518827
Pace Project No.: 30156088

Method: EPA 903.1
Description: 903.1 Radium 226
Client: BC Laboratories
Date: August 25, 2015

General Information:

2 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 5 of 13



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 1518827
Pace Project No.: 30156088

Method: EPA 904.0
Description: 904.0 Radium 228
Client: BC Laboratories
Date: August 25, 2015

General Information:

2 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 6 of 13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1518827
Pace Project No.: 30156088

Sample: 1518827-01		Lab ID: 30156088001	Collected: 08/03/15 10:05	Received: 08/12/15 10:10	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	24.5 ± 14.5 (17.1) C:NA T:87%	pCi/L	08/24/15 09:24	13982-63-3	
Radium-228	EPA 904.0	8.27 ± 8.21 (17.0) C:84% T:65%	pCi/L	08/24/15 18:34	15262-20-1	

Sample: 1518827-02		Lab ID: 30156088002	Collected: 08/03/15 10:35	Received: 08/12/15 10:10	Matrix: Water	
PWS:		Site ID:	Sample Type:			
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	12.3 ± 9.43 (11.9) C:NA T:89%	pCi/L	08/24/15 09:29	13982-63-3	
Radium-228	EPA 904.0	9.04 ± 8.05 (16.4) C:79% T:72%	pCi/L	08/24/15 18:35	15262-20-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 7 of 13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1518827
Pace Project No.: 30156088

QC Batch: RADC/25656 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 30156088001, 30156088002

METHOD BLANK: 938614 Matrix: Water
Associated Lab Samples: 30156088001, 30156088002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0731 ± 0.379 (0.787) C:NA T:90%	pCi/L	08/24/15 09:18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 8 of 13



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1518827
Pace Project No.: 30156088

QC Batch: RADC/25659 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 30156088001, 30156088002

METHOD BLANK: 938617 Matrix: Water
Associated Lab Samples: 30156088001, 30156088002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.381 ± 0.325 (0.654) C:86% T:91%	pCi/L	08/24/15 18:34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Page 9 of 13



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 1518827
Pace Project No.: 30156088

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Act - Activity
Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).
Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)
(MDC) - Minimum Detectable Concentration
Trac - Tracer Recovery (%)
Carr - Carrier Recovery (%)
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Date: 08/25/2015 03:41 PM

Page 10 of 13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

SUBCONTRACT ORDER

BC Laboratories

1518827

SENDING LABORATORY:

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911
FAX: 661-327-1918
Project Manager: Kerrie Vaughan

RECEIVING LABORATORY:

PACE Analytical
1638 Roseytown Road, Ste 2,3 &4
Greensburg, PA 15601
Phone: (724) 850-5600
FAX: (724) 850-5601

PACEA

30156088

Analysis	Due	Expires	Comments
----------	-----	---------	----------

Sample ID: 1518827-01	Water	Sampled: 08/03/15 10:05	
EPA 903.1 Radium 226	08/17/15 17:00	01/31/16 10:05	Analyze water phase only results needed by 8/17/2015.
EPA 904.0 Radium 228	08/17/15 17:00	01/31/16 10:05	Analyze water phase only results needed by 8/17/2015.

Containers supplied:

2- 16.4L PE (Rad)

Sample ID: 1518827-02	Water	Sampled: 08/03/15 10:35	
EPA 903.1 Radium 226	08/17/15 17:00	01/31/16 10:35	Analyze water phase only results needed by 8/17/2015.
EPA 904.0 Radium 228	08/17/15 17:00	01/31/16 10:35	Analyze water phase only results needed by 8/17/2015.

Containers supplied:

G, G

Released By

Date

Received By

Date

Released By

Date

Received By

Date

PACEA

Page 11 of 13

Page 1 of 1

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

Sample Condition Upon Receipt

Pace Analytical

Client Name: BCProject # 30156088Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____Tracking #: 1291653710302544077Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals Intact: ☐ yes ☐ no Biological Tissue is Frozen: Yes NoPacking Material: Bubble Wrap ☒ Bubble Bags _____ None _____ Other _____Thermometer Used N/A Type of Ice: Wet Blue None ☐ Samples on Ice, cooling process has begun

Cooler Temp.: Observed Temp.: _____ °C Correction Factor: _____ °C Final Temp: _____ °C

Date and Initials of person

examining contents: ARM 8/12/15

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>LOW VOLUME</u>
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>No date time on sample bottles</u>
-Includes date/time/ID/Analysis Matrix:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <u>Added 21mL HNO₃ to each sample bottle. PHCZ ARM 8/12/15 1105</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, Phenols	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed <u>ARM</u> Lot # of added preservative <u>015-0641</u>
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Carrie DennisDate: 8/12/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

J:\QAQC\Master\Document Management\Sample Mgt\SCUR\FALLC003-09 SCUR Front 3N Page 22 of 13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

30156088

Project Number: _____

Client Name: _____

page 2

Face Analytical

[illegible]

SCURF Back (C016-4 15May2012).xls

Page 13 of 13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



Enviro Tech Consultants, Inc.
5400 Rosedale Highway
Bakersfield, CA 93308

Reported: 08/26/2015 10:22
Project: Produced Water Pond Testing
Project Number: Fourstar
Project Manager: Kelsey Padilla

Notes And Definitions

J	Estimated Value (CLP Flag)
MDL	Method Detection Limit
ND	Analyte Not Detected
PQL	Practical Quantitation Limit
A01	Detection and quantitation limits are raised due to sample dilution.
A02	The difference between duplicate readings is less than the quantitation limit.
A03	The sample concentration is more than 4 times the spike level.
A07	Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
A17	Surrogate not reportable due to sample dilution.
A19	Surrogate is high due to matrix interference. Interferences verified through second extraction/analysis.
L01	The Laboratory Control Sample Water (LCSW) recovery is not within laboratory established control limits.
Q03	Matrix spike recovery(s) is(are) not within the control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
Z1	Discrepancy between hexavalent chromium and total chromium results may be due to matrix interference.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.